

GHOST IN THE SHELL
MAN - MACHINE INTERFACE

攻殻機動隊

ISSUE 6 OF 11

STORY AND ART BY
MASAMUNE SHIROW

TRANSLATION BY
FREDERIK L. SCHODT AND TOREN SMITH

この物語に登場する
様々な設定や解説や機
械は全て妄想の産物で
あり、現実とは無関係
の娯楽物です。服用を
誤る事無くお楽しみ頂
ければ幸いです。
またタッチ上げやギミ
ツクの「誤用」による
二次被害には当方責任
を負いかねます点を御
了承願います。

LETTERING BY
**TOM ORZECZOWSKI
AND DAN JACKSON**

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2



OPEN

MAN-MACHINE INTERFACE CONTROL PREFERENCES



WARNING: READ ME FIRST!

Readers may note that certain panels seem to have been inadvertently left unreversed or have incongruous backwards lettering. These were artistic decisions made by Mr. Shirow during the production of the mirror-imaged foreign edition of *Man-Machine Interface*. — Dark Horse Comics and Studio Proteus

The various situations, explanations, and concepts that appear in this book are a product of my wild imagination, a form of entertainment with no connection to reality. Take according to directions, and enjoy. Be advised that the author assumes no responsibility for any collateral damage resulting from improper use of the various constructs, fabrications, and gimmicks in the story.

APOLOGIES AND CORRECTIONS

In the *Ghost in the Shell* graphic novel published in 1991, the heroine, Motoko Kusanagi, fused with a self-described "intelligent life-form" and left Section 9 of the Public Security Bureau. This story takes place approximately four years and five months later. As a result, this story is quite different from what was originally called *Ghost in the Shell* and featured Public Security's Section 9 (the Special Assault Force). I thought of visually differentiating the new Japanese title from the old one by merely changing the last kanji character, from one that means "military unit" to the homophonic kanji for "body" or "form" (which would shift the meaning of "mobile force" or "riot squad" to something like "mobile-unit-body-entity"), but for a variety of reasons I decided not to do so. To those readers expecting a direct continuation of the prior storyline, I apologize and beg for your understanding. I'm sorry, folks!

— Masamune Shirow

Send comments to:

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ALL
RIGHT...
ENOUGH
GAMES FOR
NOW.



FHTTT

E-brain humans normally wake up sooner than cyborgs because their bodies make more independent demands on them (hunger, the desire to eliminate, sleep, or roll over at night due to poor circulation). Of course, these demands can be temporarily repressed using medication, but not indefinitely. Most people have experienced this, even if they don't have e-brains. Even when we're completely engrossed in video games, books, talking or creating something, sleep or hunger or poor circulation have the ability to interrupt what we're doing. At least for me. And you...



CHECKS REAR VIEW MIRROR



Motoko has apparently been processing the signals coming from her leg and deceiving her own senses to think that her right leg is really a cylinder. By doing so, in cyberspace her leg has the sensation (visual and tactile) that it is a cylinder, but in reality, as shown in the above panel, it's of course just functioning as a leg, and is perceived as such. This gives her a quick way to tell if she is in fact in "reality" and not simply another iteration of cyberspace. (Doesn't sound very believable, does it...?)








SURE IS TAKING
A LONG
TIME FOR A
PRELIMINARY
INVESTIGATION...

YEAH...
IT'S A
NEW
RECORD.



YOU DON'T
SUPPOSED THEY
WERE FRIED BY
AN ATTACK
BARRIER, DO
YOU?

IF I'VE BEEN TRACED
AND SURROUNDED,
MAKE SURE I'M
OUT OF THE WAY
BEFORE YOU
START SHOOTING,
OKAY?




HEY, I THOUGHT YOU
ASKED FOR THIS JOB TO
BE DONE 'CAUSE YOU
BELIEVED IN THE BOSS'S
ABILITY TO INVESTIGATE
AND INFILTRATE.



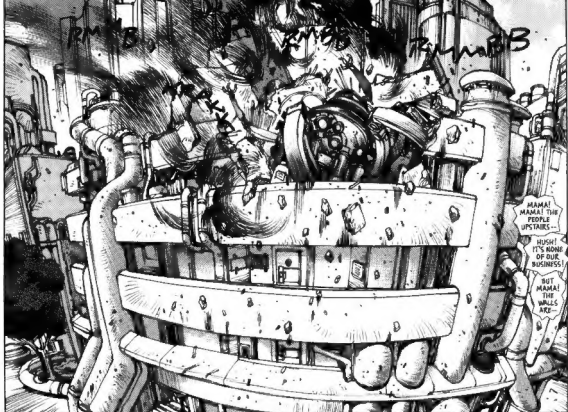
IF I HAD
100% FAITH,
I WOULDN'T
BE HERE IN A
BODY-TERMINAL
SURROGATE.

JUST A
DIRECT
CONNECTION.



YOUR BOSS IS USING
A DEFENSE ARRAY I
PUT TOGETHER, SO
WHEN THERE'S A
COUNTER-ATTACK
IT'LL BE EASIER TO
FIND OUT WHO THE
ENEMY IS. YOU KNEW
THAT, RIGHT...?





MAMMA!
MAMMA! THE
PEOPLE
UPSTAIRS...

HUSH!
IT'S NONE
OF OUR
BUSINESS!

BUT
MAMMA!
THE
WALLS
ARE--

UH OH...



WHAT
TH--?!
BOSS?!

THEY'VE
BRAINJACKED
HIM. YOU
BETTER NOT
TRY TO
COMMUNICATE!



BOMB

PSSH!

VREE
GOINK

WONDER IF
THE SAMPLE I
HANDLED OVER
HAS BEEN
TAKEN CARE
OF...?

MAYBE
I'D BETTER
GET OUT
OF HERE...
THINGS
AREN'T
LOOKING
GOOD...







HMM... LOOKS LIKE I HAVEN'T BEEN ABLE TO GET OUT OF THE GAME'S SELECTION STAGE.

WONDER IF I'M REALLY BACK IN A PHYSICAL REALITY...?

EITHER WAY, PROBABLY ISN'T MUCH DIFFERENCE IN THE BEHAVIOR ARRAY... BUT I STILL DON'T LIKE IT.

THEY'RE THE BOUNCERS FROM A LOCAL DANCE CLUB. I'M PUTTING TOGETHER AN INFECTION ROUTE FOR YOU...

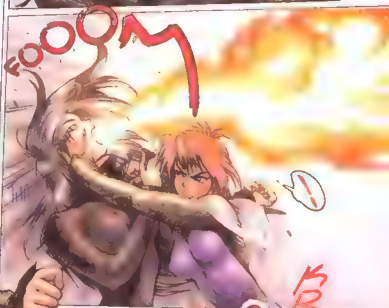
INJECT THE SAME VIRAL ARRAY AS LAST TIME! ANALYZE CHANGES IN THE ENEMY'S RESPONSE AND GIVE ME A REPORT!

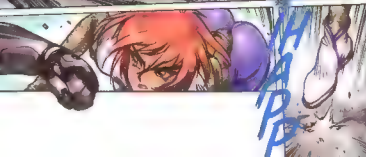
THE LOCAL POLICE SWAT SQUAD HAS BEEN MOBILIZED.

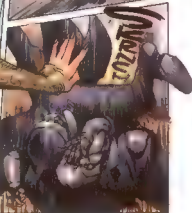
DO A TRACE ON THE ROUTE AND MONITOR IT. IT'S TOO SOON! OUR OPPONENTS SHOULDN'T HAVE GONE NUTS OVER SOMETHING LIKE THIS...





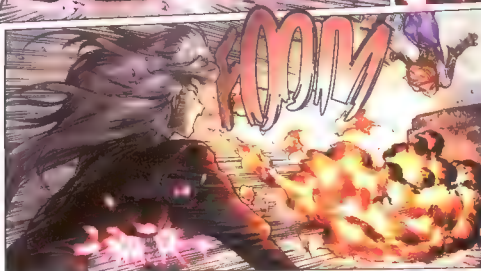
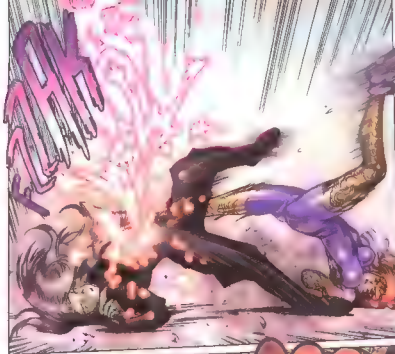






Chroma is a remote-controlled humanoid terminal, so she doesn't need to close her eyes when she takes a hit or exhale when she licks someone. She's just mimicking the reactions of the person operating her, but the reactions have no particular meaning for her.



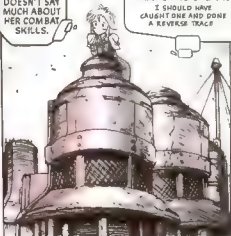




WMPH
GETTING
CAUGHT BY
THE SAME
TRICK TWICE
DOESN'T SAY
MUCH ABOUT
HER COMBAT
SKILLS.

SHE'S JUST A HOST,
SO MAYBE THAT'S AS
GOOD AS SHE COULD
DO... TOO BAD, BUT
THAT'S THE BREAKS.

I SHOULD HAVE
CAUGHT ONE AND DONE
A REVERSE TRAC.



SHE WAS USING
THE SAME
COMMERCIAL
COMBAT SOFT-
WARE I AM, BUT
UNMODIFIED.
GOOD THING
I'VE GOT A
REINFORCED
FRAME...

SENDING FOUR
DIFFERENT TYPES
OF HOST BODIES
MEANS THEY'VE GOT
A PROBLEM WITH
THEIR INTELLIGENCE
GATHERING



LOOKS LIKE THE TWO
HEAVYWEIGHT BODIES
AREN'T GOING TO BE ABLE
TO COME AFTER ME. BUT...
WAIT A SEC... IF THEIR GOAL
WAS TO ELIMINATE ME,
THEN THEY SHOULD'VE
GRABBED SOME FIREARMS
FROM ALGREN'S MEN!

SO THE
GOAL MUST BE
TO TAIL ME...
BUT THEN WHY
ATTACK ME
THE WAY
THEY DID?
CAPTURE ?
VERY STRANGE...

GEE,
JUST
WHEN I
WAS
GETTING
USED TO
THIS
BODY...

TOO BAD,
BUT I
GUESS I'LL
HAVE TO
PUT IT TO
SLEEP.



Commercial combat software: A type of program that automatically takes care of combat, in accordance with the body's previously set structural strengths and powers.



SET THE MINE
RELEASE AND
MAG-KILL TO
TRIGGER EITHER
TWELVE HOURS
FROM NOW OR
WHEN AN
UNCODED
EXTERNAL
CONNECTION
TAKES PLACE



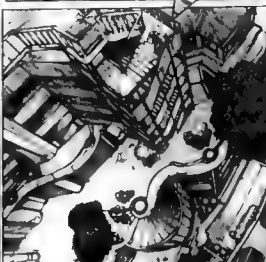
LOKI, HEAD FOR
OSAKA. SET A
TRAP IN THE
SAIKO HOTEL
AND STAND
BY

CAN I DO A
STRUCTURAL
ANALYSIS
ON HER?

Since it's just to gain time, anywhere would be fine. Motoko has a stock of cars available and rooms she periodically secures in hotels. This will allow her to activate Chroma around eight hours later as a decoy.

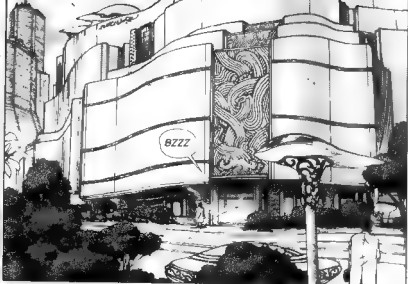
AFTER
HIBER
NATION
YES

HOO
RAY!

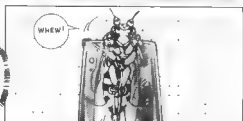


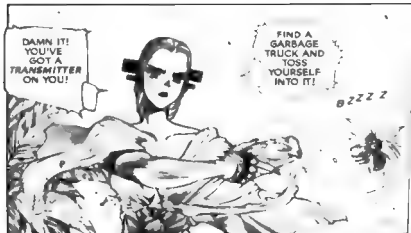
I WONDER IF RUNNING A
STRUCTURAL ANALYSIS IS
REALLY THAT MUCH PUN...





Passing through greenery is a good way to throw larger pursuers off track. The heavier the growth, the easier it is to lose them, but you have to move fast.





The "sealing process" used here is the same type used on the building in the opening scene of *Ghost the Shell 1*. Most windows are coated with thin-matrix displays and use random-vibration jamming, so infrared sensors and laser listening devices are generally useless for eavesdropping. The degree of randomness in jamming can be deduced from the movement of the displayed images on the inside of the glass (reflections of trees moving in the wind, and of water, are common). These windows can also function as antennae, so one has to be very careful.



Channeling Agency: A secret organ of the State normally it helps suppress the scale of earthquakes and other disasters with feng shui, etc., or it is employed to psychically back up meetings with foreign VIPs. Among those who know of its existence, it's regarded as a very questionable agency.





AND FRANKLY, I'M NOT INTERESTED IN THE CYBERDOME I THINK IT'S STUPID

KCHAK

NO WAY! IT CAN BE REALLY FASCINATING!



YOU REALLY THINK IT'S FUN FOR ALL THE SPECTATORS TO DO AN E-BRAIN TRANSFER INTO THE HERO-PROGRAMS IN THE SOFTWARE STORYLINE AND ALL SHARE THE SAME EXPERIENCE?

TOO SOCIALIST FOR ME, THANKS

BUT THEY'RE ALL FUSING BY CONSENT AND... IF I TOLD YOU THE STABAT MATER STAFF HAD HIJACKED THE FOUR PEOPLE YOU MET EARLIER, WOULD YOU BE MORE INTERESTED?

NOT REALLY

NOW IT'S YOUR TURN TO CHAT WHAT WERE YOU DOING THERE ANYWAY?

beep

SWITCHING TO HOUSE GUARD MODE "BEEP"



WHO SAID WE WERE GOING TO EXCHANGE INFORMATION?

MEH?

IF YOU REFUSE I WON'T HELP YOU! AND YOU'LL NEED MY HELP!

Heh heh heh!



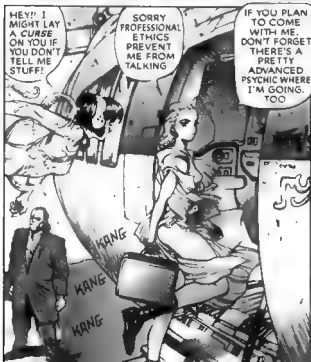
IF YOU'RE TALKING ABOUT THE "DEAD LITTLE PIGS" STORY, THEN I DON'T MIND

NOW, THAT'S NOT THE SORT OF CASE THE CHANNELING AGENCY WOULD SEND ME FOR!

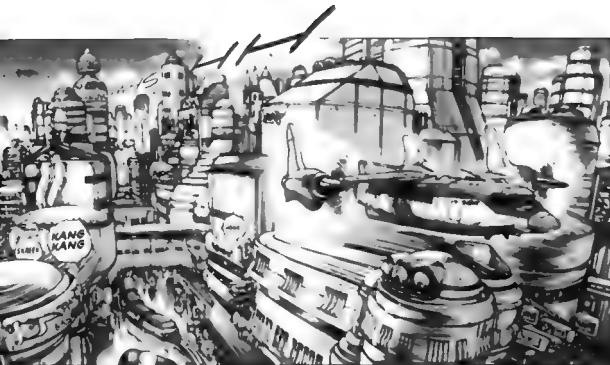
WHUP WHUP WHUP WHUP



Let's assume that Motoko and Tamaki's conversation is actually all mental and therefore inaudible



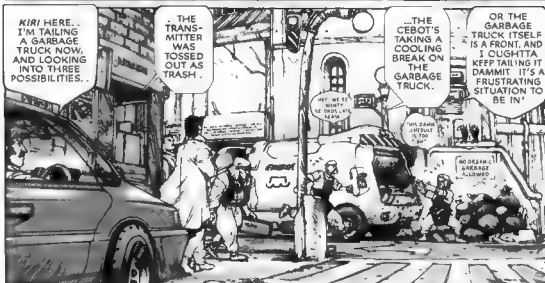
The aircraft shown here is not actually a helicopter, but a tilt-rotor. In our story it's used for business and public service missions much more commonly than light aircraft or helicopters. At least that's the idea



In reality the laser coming light wouldn't be visible unless there was a lot of smoke or dust in the room (The transmitter revolves along with the vision system.)



FRACTO TO KIRI...AN OSPREY JUST TOOK OFF FROM THE BUILDING VISITED BY THE BEE-TYPE CEBOT, AND IT'S NOW PASSING OVERHEAD. IT'S A WEIRD ONE THAT DOESN'T REGISTER ON SATELLITE, BUT THERE ARE NINE MACHINES THAT WOULD APPLY AT CONTROL.



A cebot is a "centimeter class" robot. It's usually anything from one to ten centimeters. As in the case of Motoko's Bumblebee, many cebots are built to look like insects. Cebots are used to eliminate insect pests or clean sewers and usually operate in swarms (aka "insectrons"). Cebots are a product of nanotechnology, but they're too big to be referred to as nanomachines or micromachines.

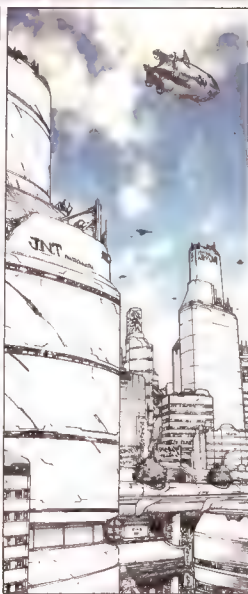
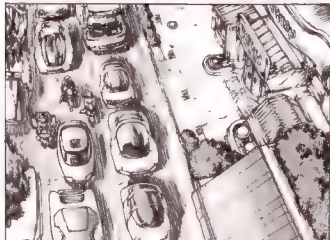
In the second panel on the preceding page, they wait nine minutes at the airport before heading to another destination because they want to throw off anyone trying to monitor, pursue, or tail them. Unless an individual aircraft can be directly detected via satellite or radar, it can be hard to distinguish from a distance, as many small aircraft use the airport. Obviously, they're not going to fly directly to the airport, either. They'll go in a round-about way to throw any pursuers off track.

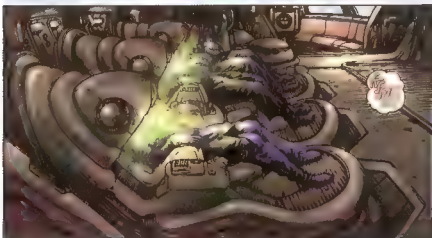
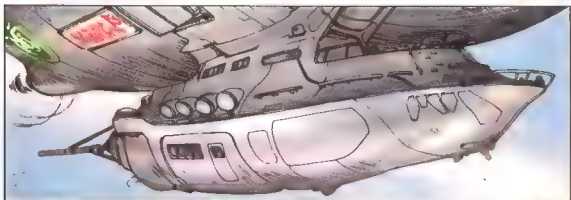
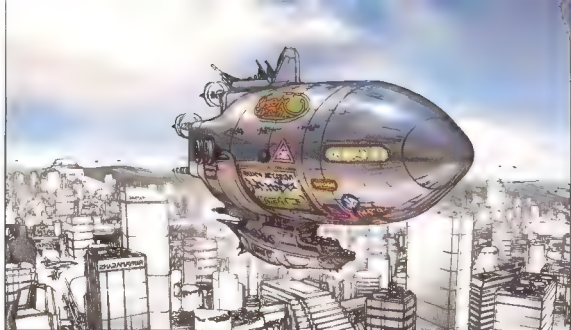
WELL, I JUST GOT A READOUT FROM THE SANITATION DEPARTMENT-- BOTH TRUCK AND WORKERS ARE APPARENTLY THE REAL THING.

USE THE SANITATION DEPARTMENT'S LINES TO TELL THE MEN TO FINISH COLLECTING GARBAGE AND TO HEAD FOR THE INCINERATOR PLANT, THEN LET'S SEE WHAT HAPPENS TO THE TRANSMITTER SIGNAL

OKAY. CHROMA GAVE THE "THING" TO THE DETECTIVE, ANYWAY, SO I'LL LEAVE THE REST OF THE TAILING UP TO YAMAZO.

I'LL DIS-ENGAGE HERE AND GO REPORT TO MOTHER...





TOO BAD
WE DON'T
HAVE MORE
PEOPLE

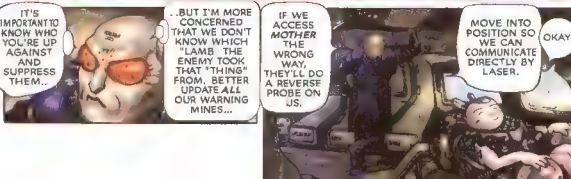
IT'S
IMPORTANT TO
KNOW WHO
YOU'RE UP
AGAINST
AND
SUPPRESS
THEM...

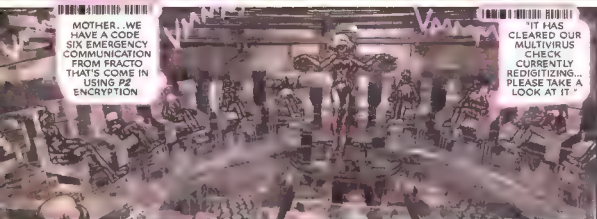
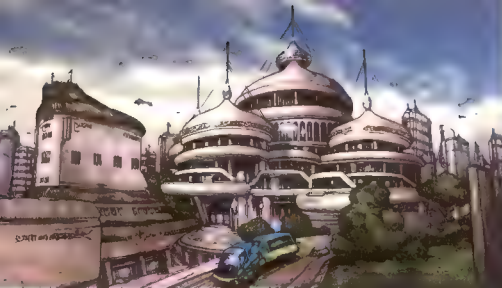
...BUT I'M MORE
CONCERNED
THAT WE DON'T
KNOW WHICH
"LAMB" THE
ENEMY TOOK
THAT "THING"
FROM. BETTER
UPDATE ALL
OUR WARNING
MINES...

IF WE
ACCESS
MOTHER
THE
WRONG
WAY,
THEY'LL DO
A REVERSE
PROBE ON
US.

MOVE INTO
POSITION SO
WE CAN
COMMUNICATE
DIRECTLY BY
LASER.

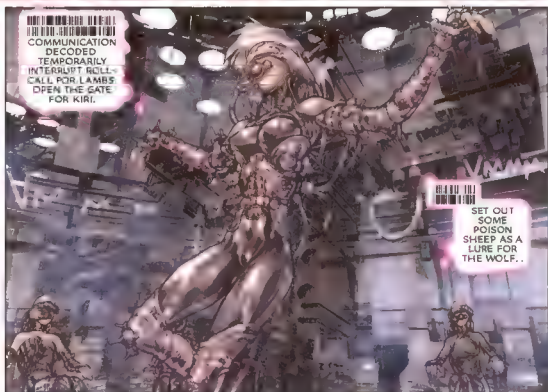
OKAY!





MOTHER... WE
HAVE A CODE
SIX EMERGENCY
COMMUNICATION
FROM FRACTO
THAT'S COME IN
USING P2
ENCRYPTION

"IT HAS
CLEARED OUR
MULTIVIRUS
CHECK
CURRENTLY
REDIGITIZING...
PLEASE TAKE A
LOOK AT IT"



COMMUNICATION
DECODED
TEMPORARILY
INTERRUPT ROLL
CALL FOR LAMBS
OPEN THE GATE
FOR KIRI.

SET OUT
SOME
POISON
SHEEP AS A
LURE FOR
THE WOLF..

INTERFACE

Send email comments to interface@darkhorse.com

Send snailmail comments to:

interface
c/o Dark Horse Comics
10556 SE Main St.
Milwaukie OR 97222

Well, we finally have enough room to get some of your comments into play. There's also been some lively discussion over on the darkhorse.com message boards, and I highly recommend any and all of you get your feet wet in those forums, if you haven't already. I've even found myself in there to clear some time to time. Hardly a feature, but it's not at all.

-Chris Warner

Dear Masamune Shirow,

Just got finished with a vacation in which I went to Hong Kong, Thailand, and Burma. The memories of this vacation were para-sailing, riding in various boats along the River Kwai, and Coral Island. Train ride through Bangkok has to offer. But nothing compares to *Ghost in the Shell*. This is manga done with excellence! I was in my own "shock and awe" when looking upon Masamune Shirow's incredible and very realistic artwork. The clone organ farm with the slaughtered pigs was absolutely horrific. Using pigs to harvest human organs is ghastly, but I remember what I once saw on the news, a rat that had a human ear growing out of its torso. It's disgusting, but this is where we are headed. What an imagination Mr. Shirow has in this futuristic sci-fi story. Imagine a city called Pegasus that is a floating city in the Indian Ocean. The airships and mechanical drawings are done with such precision...all I could do was applaud. Not to mention the elaborate costume designs and the originality of each costume. There is plenty of sci-fi intrigue that gets the reader curious, especially when it is described in analyzing brain activity, that there are drugs all over the place, and the link to E-brain activity can't be found. I love the footnotes that detail more insight into the story. Clones, cyborgs, and robotics...it's all here in *Man-Machine Interface*! Standing ovation to Masamune Shirow!

Paul Dale Roberts,

Knight of Jazma Jazma Universe Online!

"Shock and awe" is about the most accurate assessment I've seen to date to describe the typical first-time viewing of MMI. And second-time. And third-time. I still shake my head in wonder every time I crack the cover.

What can I say, awesome, unparalleled, über-terrific! The wait was worth it! *Dark Angel* and *The Matrix*...huh! Those jokers can't even begin to compare with Shirow's sophisticated and mindboggling storyline and high-tech erotic pencils (does he still use them?). Anyway, enough of the accolades...I have a question to ask, two for that matter. In *Intron Depot 2*, Mr. Shirow mentions the existence of *EXTRON Depot*. When is it coming? Will Dark Horse publish it? What about *Demon Hunter*? Was it ever published? Will Dark Horse publish it too? I hope you or the über-meister HIMSELF can respond to my questions. Thanks a lot and more POWER!

Steve Veloso

Well, Mr. Shirow is pretty busy, even by über-meister standards, so I wouldn't hold my breath waiting for a personal reply. That said, Extron Depot is still a work in process, and it will likely be some time before it sees print. Demon Hunter - a prose fiction series for which Mr. Shirow provided a handful of illustrations - has never been published in the States. Dark Horse would love to publish anything Shirow, of course, and we plan to publish more, but Extron Depot is a

long way off and Simon Smith is a series of novels, isn't exactly the kind of thing we typically publish. Anything's possible, but anything I say would be pure speculation, so I'll just shut the hell up.

After reading and enjoying the violence of the 2nd issue of Shirow's latest, *GITS2: MMI*, and reading the notes in the back, I'm finally ready to voice my thoughts on what has been eating at my brain about Shirow's work and the "need to Westernize."

Why is it that Dark Horse is probably at the moment the only unlicensed-manga publishing company remaining stubborn and absolutely demanding to print flipped-image manga? Isn't it enough Shirow slaved over this incredible work that is *Man-Machine Interface* that all it needed was to be translated and carefully presented in an unflipped English edition? Shirow obviously poured his heart and soul into the images presented in all his works, even more so in *Man-Machine Interface*. This is obviously a light year ahead of anything else I've seen from the artist. This might raise the bar of what is considered manga to a higher level at least for manga of this genre. But what really annoys me is that Dark Horse absolutely insists to ask Shirow to go back into what he already saw with his mind and created with his hands and further alter it, just so it could be published with what is not at all the "manga" style of an English edition.

Why is this even necessary? The manga-reading market has come far in the past ten or so years, and more companies are bringing to light wonderfully done unflipped editions. Lots of fans have been asking for this, and companies are delivering, and often with prices reflecting the increasing acceptance of manga as a viable medium where all that's necessary is to translate the material without flipping or other major mutilations.

And another issue I have is with Dark Horse's censorship of some pages in an issue of the original *GITS* manga by Shirow. Fans found out pretty quickly that a cyber lesbian sex scene was completely chopped out, one panel having been re-drawn by Shirow (presumably), just so there'd be something instead of half of a blank page. I was sent color copies of those pages soon after that issue came out, and a friend sent me a text file from an English translation done somewhere in Europe (not sure which country it was published, unedited and unflipped, but such an edition was published). Granted, there was probably a need by Dark Horse at the time *GITS* came out to make that eight-issue manga series appeal to a mass market without raising the ire of some people, that being a small-minded and ignorant minority who don't buy manga nor can appreciate the reason why anyone would buy it. But since it happened once in the original *GITS* by Shirow, I am very concerned this same censorship, removal of material, and changes to images will happen with *GITS2* because of the same issues for requesting the changes and censorship.

Manga doesn't need to be "Westernized" any more than being translated. And I am sure I'm not the only one offended that the only way to see *GITS2: MMI* unedited, unflipped, and uncensored is to buy an original Japanese edition. Just for once I wish Dark Horse would take the leap and join the rest of the manga publishing community and do an unflipped edition. *GITS2: MMI* could have been such a centerpiece for such an entry. Working with the images unflipped would have saved lots of man hours, both for Shirow-sensei and the people who have to put the translations on the pages in the proper places. I appreciate the fact that Shirow had a heavy hand in how *MMI* was prepared for an English edition so it's pretty much how he wanted it to look because of the fact that Dark Horse wouldn't publish it unflipped (and uncensored), but sadly I feel this was work he never needed to do in the first place. This is not to say I won't order and collect the rest of the series. But I would look forward to an unflipped edition in English, perhaps as a \$15 graphic novel... Just so you know.

Andrew Floyd

First of all, you're laboring under two massive misconceptions. Dark Horse neither censored Mr. Shirow nor forced him to Westernize *Man-Machine Interface*. Had Mr. Shirow asked that the "hot" pages be left in and that the book be printed in its original orientation, we would have done so. In fact, we'll be publishing *Berserk* later this year non-Westernized at the creator's request. Mr. Shirow himself decided to pull the controversial pages - they aren't included in the Japanese collection either - possibly because the book would have had to be sold as an Adults Only title in the States and likely wouldn't have been allowed into a number of countries. Shirow wants to get his work to his readers, and omitting a small number of pages hardly seems like a huge sacrifice to achieve that end, particularly when balanced by the inclusion of over 150 pages of new material.

All that said, let's get down to one of my "favorite" subjects: to Westernize or not to Westernize. First off, I'll lay this down right away: there's nothing "authentic" about right-to-left oriented manga translated for a Western audience, any more than little white words printed across a screen (subtitles) are "authentic." The only authentic way to read manga is to read it in Japanese with a much stronger cultural background than even fluent Westerners will ever experience. Publishing is about getting stories into the hands of readers. Just as some viewers of foreign films prefer dubbed films over subtitled, some readers prefer Westernized manga because it does not interfere with the natural reading and visual flow of comics, as opposed to the counter-intuitive chore of having a book visually oriented right-to-left, while still having to read left-to-right. To be frank, if you want a more authentic experience, the English words should be stacked vertically and aligned in rows that read right to left, but my guess is that would be too ridiculous and annoying for even the most hardcore purists. And what's authentic about not translating sound effects? Sound effects are often very telling information, not just fancy graphical flourishes. Does the intention of providing a better reading experience outweigh the reading experience? In a word, no.

Like it or not, the reference to Westernized manga has to a certain degree caused readers - i.e. those who just like cool comics regardless of national origin - and these are the readers the industry needs to expand its base and create a future where graphic fiction becomes as accepted and vital art form in America. So, while you might prefer the non-Westernized manga - no crime, certainly - apparently its Westernizing doesn't sufficiently degrade your reading experience enough to completely turn you off. Let me also remind readers that until some publishers began to market non-Westernized manga as some sort of superior, desirable form, westernizing manga was not an issue. In other words, no one cared until someone started promoting the idea that something was wrong. Ultimately, only the original Japanese editions are authentic, and the merits of Westernized or non-Westernized manga hail down to the purely subjective realm of personal taste. Your mileage may differ. End of rant.

Dear Mr. Warner, Mr. Smith, and/or Mr. Dryer:

I just spotted the first issue of *Ghost in the Shell: Man-Machine Interface* and picked it up, having heard interesting things about it. I must say I wasn't disappointed; I plan to pick up the next issue when I go back next. I particularly like the sophisticated treatment of future technology and the clever nuances that convey it in the story.

However, I wanted to note one small technical inaccuracy. Issue 1 refers to "fifteen knots per hour" at the top of the eighth interior page and at the top of the 28th interior page. A check of Webster's Collegiate confirms that the primary meaning of "knot" is "nautical mile per hour," which is already a measure of speed; so saying "knots per hour" is the same as saying "nautical miles per hour per hour," which is unnecessarily repetitions and confusing. I note that several other places give speed in just "knots," among them Motoko's dialogue in the bottom middle panel of the 10th page and the displayed vessel stateline in the middle panel of the 29th page.

This isn't a big deal and certainly doesn't prevent me from enjoying the story. But noticing it is a slight distraction. So I'm writing to tell you about it in the hope of exercising it. Perhaps you and/or the translators can watch for that one in issues not yet at the printer.

Best wishes, and thanks for your attention.

William H. Stoddard

Now, you win the "catch of the day"! How'd we let that slip through? I'm not saying that I actually sleep on the job, mind you, but there's nothing wrong with working in pajamas while laying down, in my opinion. When my eyes are closed, I'm concentrating really hard! Otherwise, the heavy drinking has never really affected my work, and many actually consider extensive on-the-job Playstation use as an aid to staying alert, focused, and tuned in to current trends. At least, it works for me.



GHOST IN THE SHELL

MAN-MACHINE INTERFACES

2

ISSUE 6 OF 11



DIRECT SALES



00611

7 61568 1211 7

MAGNUME SHIROU

GHOST IN THE SHELL
MAN-MACHINE INTERFACE

攻殻機動隊

ISSUE 2 OF 11

STORY AND ART BY
MASAMUNE SHIROW

TRANSLATION BY
FREDERIK L. SCHOOT AND TOREN SMITH

この物語に登場する
様々な設定や解説や概
念は全て妄想の産物で
あり、現実とは無関係
の娯楽物です。服用を
誤る事無くお楽しみ頂
ければ幸いです。
またデッチ上げやギミ
ックの「誤用」による
二次被害には当方責任
を負いかねます点を御
了承願います。

LETTERING BY
**TOM ORZECOWSKI
AND DAN JACKSON**

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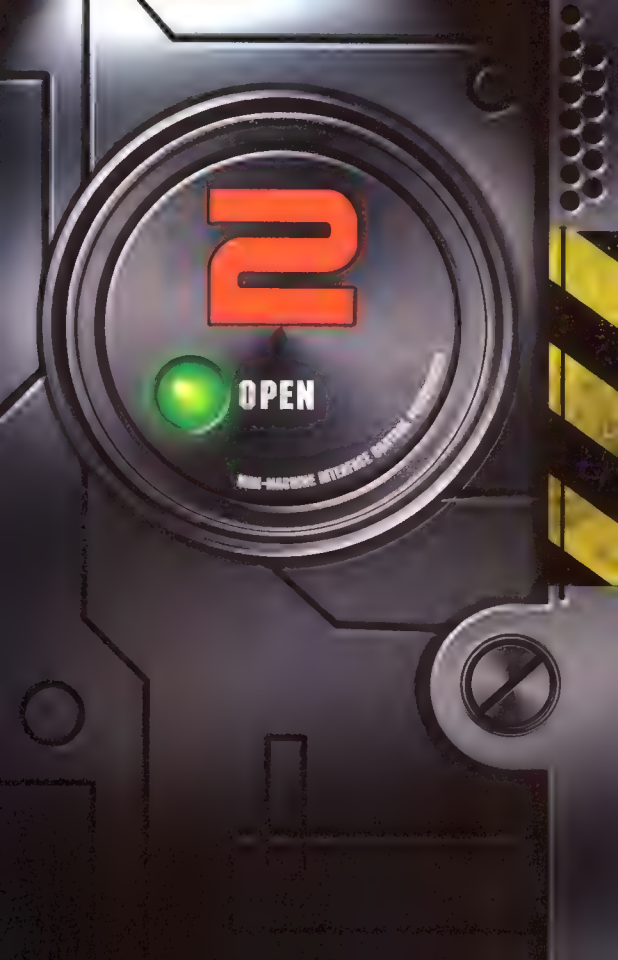
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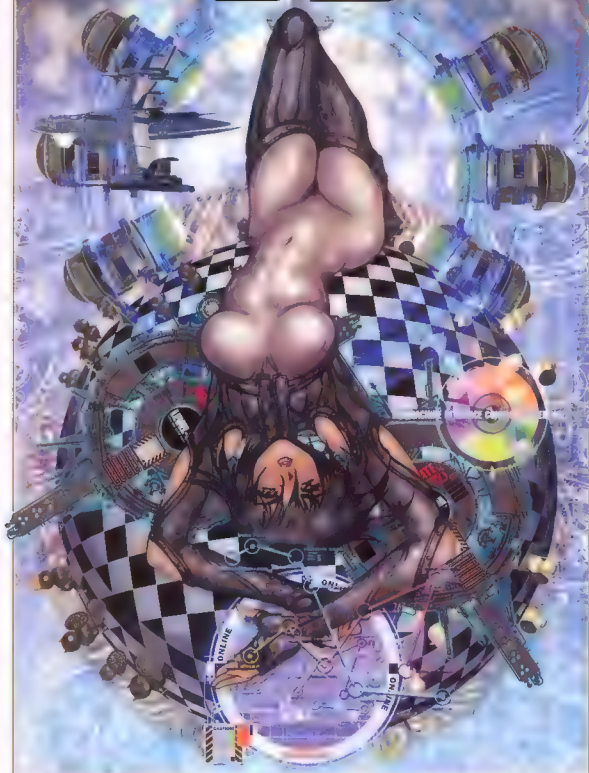
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OPEN

MAN-MACHINE INTERFACE SYSTEM



05





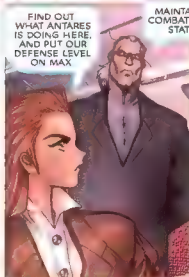
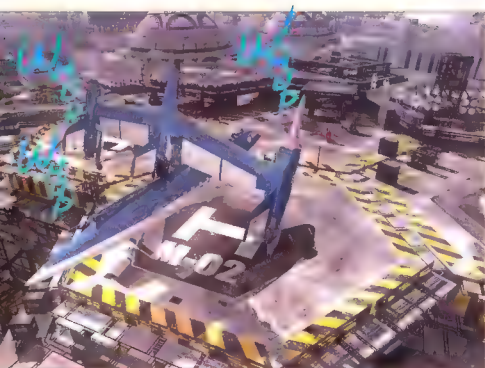
WE'VE
CONFIRMED
TAMAKI/TAKA/
IS OPERATIVE,
BUT DON'T
KNOW THE
DETAILS...

OH?

WE'RE CERTAIN
THERE HASN'T
BEEN AN
INFILTRATION,
BUT WE'RE
RECHECKING
THE BARRIERS

I WONDER IF
THE ORDER SENT
EARLIER TO THE
CHANNELING
AGENCY
ORDERING THE
AGENCY HEAD TO
STEP DOWN
DIDN'T WORK...?

I'M GETTING THE
IMPRESSION WE'RE
DEALING WITH
SOMETHING VERY
DIFFERENT FROM
THE "ULTRA-
STRAIGHT"
TAMAKI I KNOW...



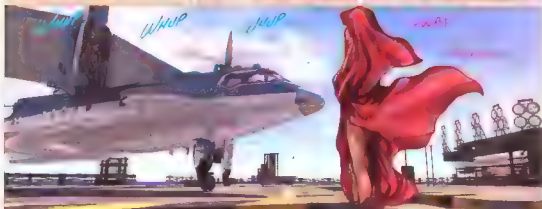
FIND OUT
WHAT ANTARES
IS DOING HERE,
AND PUT OUR
DEFENSE LEVEL
ON MAX

MAINTAINING
COMBAT-READY
STATUS.



THE SECURITY
DEPARTMENT
HAS
APPARENTLY
SEALED OFF
DECATONCALE
AND
ARACNOSAT

RIGHT OR
WRONG, WE
NEED TO
RE-EVALUATE
OUR POLICY
ON
CHANNELERS
AS SOON AS
POSSIBLE.



DECATONCALE: Name of a special supercomputer in this story. Only three such systems exist on the planet
ARACNOSAT: Name of an optical satellite network system. Uses redundant communications lines to ensure throughput



PERFECT. I THOUGHT YOU WERE THE TYPE WHO'D BE CHECKING YOUR COMMUNICATIONS DURING LUNCH!

SO, IN OTHER WORDS... YOU'RE IN A HURRY, RIGHT...?

MUSTA BEEN LOOKING AT MY RESUME



YEP, I SAW IT. I NEED TIME ON THE DECATONCALE TO TAKE ON SOME E-THUGS AND I CAN'T AFFORD ANY COMPETITION FOR CPU CYCLES, SO CAN WE CUT A DEAL?



SORRY, EVEN A TOP EXECUTIVE OF THE COMPANY COULDN'T GIVE YOU--PROBABLY THE MOST SUSPECT PERSON IN OUR WHOLE ORGANIZATION--FREE ACCESS TO THE SYSTEM'S CORE FUNCTIONS

CAN'T YOU COME UP WITH A REQUEST THAT DOESN'T REQUIRE THE EXCLUSIVE USE OF ONE OF THE WORLD'S MOST POWERFUL SUPER-COMPUTERS...?



PRETTY PLEASE ...?

SORRY

YOU BIG MEANIE!



WELL, I GUESS I'LL JUST HAVE TO LEAVE THIS CASE UP TO THE SECURITY DEPARTMENT AND TAKE A PAID VACATION. YOU CAN TAKE OVER FOR ME

WHATEVER. JUST MAKE SURE YOU SEND ME ALL CURRENT DOCUMENTATION ON THE CASE.



BY THE WAY, HOW COME YOU HAVEN'T MADE A REQUEST TO SECURITY FOR BODYGUARDS? MY REPUTATION AROUND HERE IS GONNA SUFFER.

WANNA TALK ABOUT IT OVER DINNER SOMETIME? IT'S FINE WITH ME... SEE YA LATER!



HMM

DANGEROUS LADY, AIN'T SHE?

OKAY...I
CHECKED WITH
HR. CASH
FLOW IS CLEAN,
NO SIGN OF
NEPOTISM OR
NOTHIN'

THE DEPARTMENT
CHIEF AND FELLA IN
CHARGE SECRETLY
INVESTIGATED HER.
THE OLD EXAMINERS
OFFICE COLLECTED
ALL THE RELEVANT
DOCUMENTS...
NOTHIN' SPECIAL.

WELL, SHE MUST
HAVE SOME SORT
OF EXCEPTIONAL
CONNECTIONS.
REGARDLESS I
WONDER WHAT
KIND OF WORK
SHE NORMALLY
DOES...?

AT ANY RATE, KEEP
GATHERING INFO ON
HER. THERE MAY BE
SOME DISPUTE GOING
ON ABOVE OUR
HEADS, SO I WANT
YOU TO REPORT TO ME
DIRECTLY, WITH AN
INDEPENDENT TEAM.

SHE'S STARTED
INPUTTING!
I CAN'T TELL
WHAT SHE'S SAYING
'CAUSE I CAN'T
CRACK THE FILES
WITH THE TOOLS
I'VE GOT.

AND SHE'S
CYCLING THROUGH
DIFFERENT RELAYS
AT AN INCREDIBLE
SPEED

AT LEAST TRY
TO FIGURE OUT--
OR GUESS--
WHO SHE'S
CONNECTING
TO.

HABU! I NEED
TO KNOW HOW
MANY SENIOR
RESEARCHERS IN
CHARGE OF THE
DECATONCALE
ARE OFF-SITE
NOW.

MNF? WELL, IT'S
LUNCHTIME NOW,
SO PROBABLY ABOUT
A THIRD. IF YOU
WAIT A SEC, I'LL
CHECK...

OKAY...
TWENTY-
EIGHT.
WHASSUP?

IT MAY BE A FEINT BY
E-THUGS SO DEPARTMENT
HEAD ARAMAKI CAN
CONNECT TO THE
DECATONCALE. MAKE
SURE TWO OUT OF THREE
OF THE DEDICATED
SECURITY TEAMS ARE
STAFFED WITH NON-E-
BRAIN PERSONNEL.

GOTCHA,
BOSS.



YOSHU!

HEY, LONG
TIME NO SEE,
LEE! YO,
WHAT'S
UP?

?? YOU WANT ME TO
MAKE A COMPLETELY
INDEPENDENT BACKUP
OF THE DECATONCALE?
LISTEN, LEE, YOU MAY
HAVE A LOT OF CLOUT,
BUT WITHOUT THE
PRESIDENT'S EXPRESS
PERMISSION--



IT'S AN
EMERGENCY?
OKAY, BUT YOU
HAVE TO TAKE
RESPONSIBILITY
FOR WHATEVER
HAPPENS.



I'M MAKING
AN OFFICIAL
REQUEST.
YOSHU, IT'LL BE
DONE IN A FEW
SECONDS.

STILL...IT'S
NOT AN OPEN
NETWORK
WE'RE TALKING
ABOUT HERE,
SO UNLESS
THERE'S DIRECT
ACCESS, NO
CONTAMINATION'S
POSSIBLE.

PLUS, THE
BARRIERS AND SELF-
AWARENESS
HARDWARE
ARE BUILT
TO HIGHER
STANDARDS
THAN YOU'D
FIND ON A
NORMAL
OPTICAL-
INTERFERENCE
A.I.

IT'S GOTTA
BE DONE
BEFORE THE
PRESIDENT
FINISHES
HIS LUNCH
BREAK.

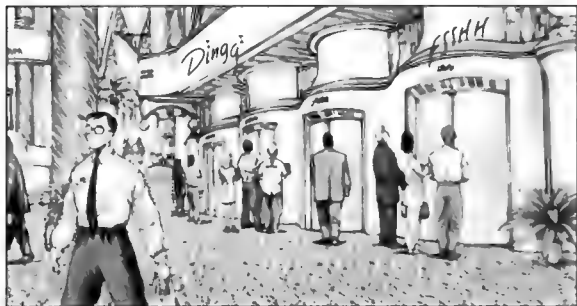
WHAT'S
THE
DECATONCALE
RUNNING
NOW?

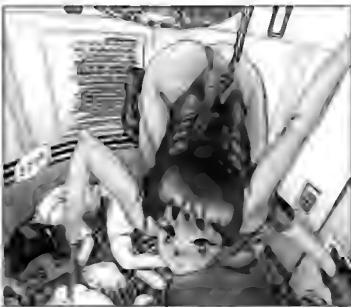


HMM... LESSEE...
MAINLY HANDLING
"HIBERNATING GENE"
DESIGN FOR THE TRIP
TO MARS, AND
SIMULATIONS OF
ECO-CEBOTS FOR THE
EUROPA PLAN...

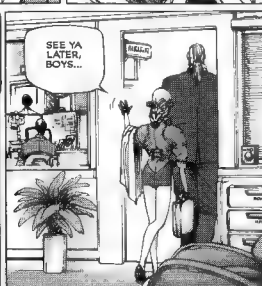
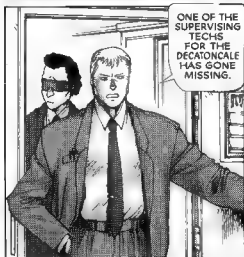
...BUT THERE
IS ONE
TOP SECRET
RESEARCH
PROJECT FOR
A SPECIAL
GROUP
OUTSIDE THE
FIRM.

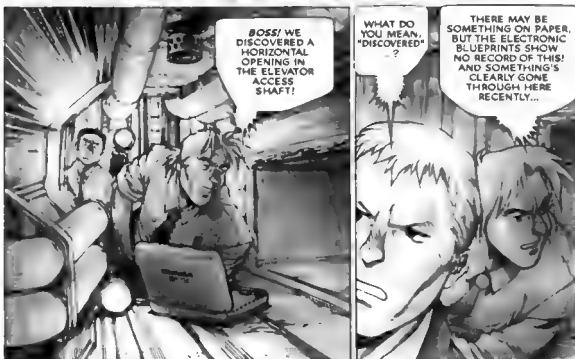












Eye-pull. This isn't the name of a high tech device, but a technique such as a magician might use, but to use a feat in martial arts. It requires using movements of elements that attract attention (in a properly timed fashion), and help to direct attention and short term memory in a specific way. In this case maybe we could call it "sight of leg."

PUT TOGETHER A DATASET AND SEND IT TO ME. WHAT'S THE NEWS FROM THE CEBOTS?



THEY HAVEN'T ALL PHONED IN YET



SWITCH ALL DECATONCALE FACILITY LOG-IN KEYS TO THE EMERGENCY BACKUPS AND REVOKE THE PASSWORDS OF ALL ALPHA ACCESS RESEARCHERS.

YES, SIR



PUT AN ROV SPIDER IN THE HORIZONTAL SHAFT, AND USE GROUND-PENETRATING RADAR TO REMAP THE AREA



JIMI! DEPLOY THE ANTI E-THUG GROUP IN THE CENTRAL SECTOR

YES, SIR

SHALL I TRY FOR A WARRANT TO INSPECT HER PRIVATE EFFECTS, SIR?



GIVE IT A SHOT! WE'RE FACING TOO MANY VARIABLES HERE. WE'VE GOT TO TAKE AS MANY DEFENSIVE MEASURES AS POSSIBLE FOR NOW



ALMOST MAKES YOU WANNA CALL IN INTERNAL INVESTIGATIONS, DOESN'T IT?

URE!

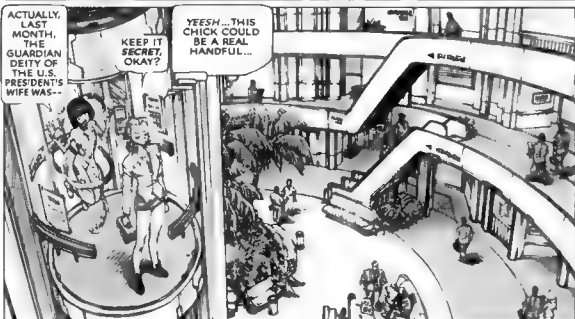


SIR!! THERE'S NOT A SINGLE SPIDER LEFT IN THE WAREHOUSE! ALL RECORDS OF THEM AND THEIR SUPPORT EQUIPMENT HAVE BEEN LOST!

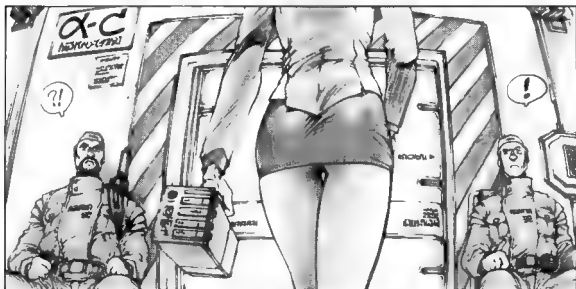
WHAT?! WE GOT SOME KINDA BLACK HOLE IN THE ORGANIZATION? FIND 'EM!!



I've heard about the U.S. army's plans to use more fully equipped infantry and stream line and speed up the mobile air supported forces (don't forget to reform the navy and the forces stationed in Japan when you're at it). Of course that's mainly for combat operations in different overseas environments, but as I mentioned before, Japan's military could use some major modernizing, too. The navy and the marine safety agency, in particular, seem to be handicapped by too many concepts that date back to World War II, if you ask me. And you think the current army can really respond to a guerrilla action in an urban environment? That stated, I'd hate to see any swap made that involved the withdrawal of U.S. forces in Japan and a permanent stationing of atomic powered carriers in the East China Sea.











DAMMIT, HABU!
YOU WERE
SUPPOSED TO
SWITCH THE
SYSTEM OVER TO
THE EMERGENCY
KEYS!

I DID!
I
SWEAR!



THAT ROOM DOESN'T
USE A DIGITALLY
ENCRYPTED KEY--IT'S
HARDWARE AND NOT
EXACTLY SOMETHING
YOU CAN CRACK
WITH A COUPLE OF
PICKS!

SHE
MUST'VE
GOTTEN AN
EMERGENCY
KEY IN
ADVANCE!!



SO THE ONLY
REASON SHE
SNATCHED THE
SUPERVISING
RESEARCHER WAS
TO GET US TO
CHANGE THE
DAMN KEYS!!



HI,
EVERYBODY!
'SCUSE
ME...



WHAT'S
WITH
THESE
PEOPLE?
A GROUP
NAP?
HOW
UNPROFESSIONAL!

IT'S A SPECIAL GAS,
PLUS A LATENT
VIRUS...I GOT IT FROM
THE WAREHOUSE IN
WARD SEVEN. MY
COMPANY'S
PRODUCTS ARE
DEFINITELY
THE BEST. ♡



LESSEE . THERE ARE ONLY TWELVE PLACES A HUMAN OR HUMAN-ASPECT PROSTHETIC BODY CAN GET THROUGH THE ACCESS SHAFTS LEADING INTO THE DECATONCALE... AND EIGHT OF THOSE ARE BEING BLOCKED BY SPIDERS.

IS SLEEPY JIM STILL BLOCKING ONE?? IF HE IS, HAUL HIM OUT OF THERE!

PUT TOGETHER AN ARMORED ASSAULT TEAM FOR ME, AND SEND THEM OVER TO THE CENTRAL SECTOR

GOTCHA!

MISS! SECURITY HERE! I NEED TO CONTACT THE PRESIDENT, ON THE DOUBLE!

ON ?

THE PRESIDENT'S OUT ON PERSONAL BUSINESS NOW. SIR AND I'M TERRIBLY SORRY, BUT IT'LL TAKE A WHILE TO CONTACT HIM

THIS IS *NOT* MY LUCKY DAY..



SURE SEEMS
LIKE TODAY
ISN'T MY
LUCKY DAY.

TOO BAD
I WANTED
TO TAKE A
MORE GENTLE
APPROACH AND
GET IN HERE
THROUGH
NORMAL
CHANNELS.

↑ COMPANY LAN TERMINAL

↑ HARDENED BARRIER & SURROGATE RESET BOX

DECATONCALE TERMINAL ↑

WANT ME TO
ACTIVATE THE
BODY ARMOR
VIRUS?

NOT 'TIL
I TELL
YOU.

WE'RE
WORKING
BACK FROM
THE POINT
WHERE THEY
CALLED IN THE
POLICE ATTACK
FORCE... GOT
THE SATELLITE
SETTINGS?

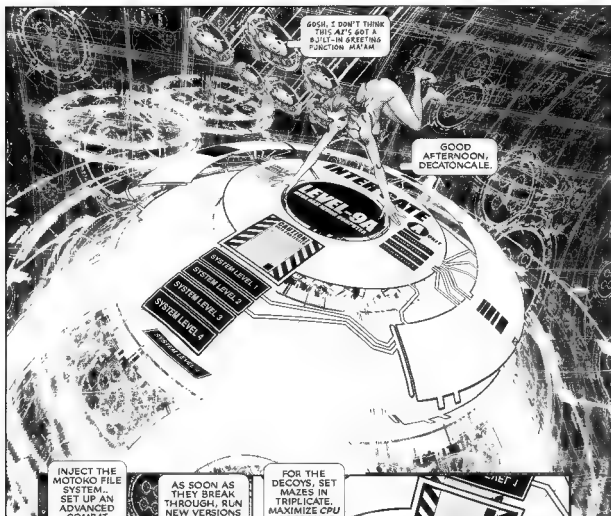
DEPLOYING
ALONG THREE
AXES OF ROUTE
ARRAYS...
STANDING BY
WITH ALL TYPES
OF ATTACK
BARRIERS!

THERE ARE 17
SATELLITES
ABOVE HQ. HOW
DO YOU WANT
TO CONNECT
THE COMPANY'S
INTERNAL
ROUTES TO THE
DECATONCALE?

WE'LL DEPLOY
WITH MAXIMUM
ORDINARY
THRESHOLD.
SET A 0.5MS
GAP FOR
PURSUERS

I WANT A
BACKUP WITH
FULL
FUNCTIONALITY!
AND WATCH OUT FOR
ANY COMPOUND
VIRUSES!

GIVE TOP
PRIORITY
TO THE
SYSTEM'S
NEW AREA
SETTINGS!



GOOSH, I DON'T THINK
THIS A.P.'S GOT A
BUILT-IN GREETING
FUNCTION MA'AM

GOOD
AFTERNOON,
DECATONCALE.

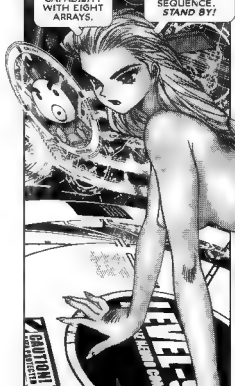
INJECT THE
MOTOKO FILE
SYSTEM...
SET UP AN
ADVANCED
COMBAT
CAPABILITY
WITH EIGHT
ARRAYS.

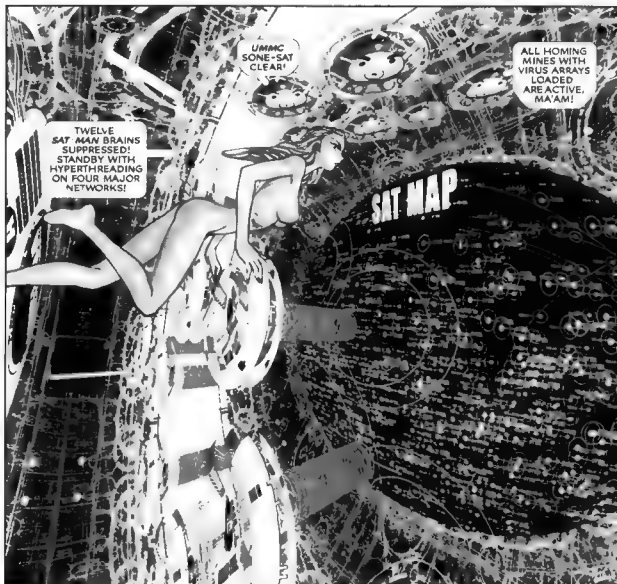
AS SOON AS
THEY BREAK
THROUGH, RUN
NEW VERSIONS
IN RANDOMIZED
SEQUENCE.
STAND BY!

FOR THE
DECOYS, SET
MAZES IN
TRIPLICATE.
MAXIMIZE CPU
PROCESSING
LOAD.

ASSUME WE'RE
FACING MULTIPLE
ENEMIES AND
DISPERSE THE
SETS. SPLIT UP
INTO FOUR
GROUPS AND
ACTIVATE
THRESHOLD
TRIGGERS!

LINK TO
ALL KNOWN
SATELLITE
SYSTEMS!



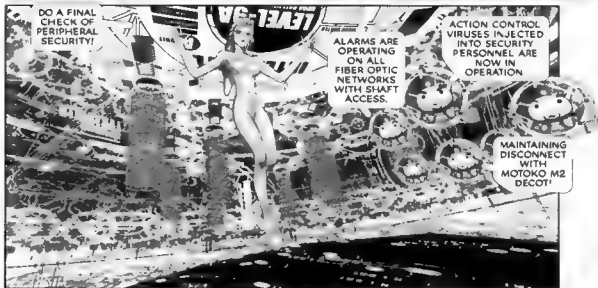


TWELVE
SAT MAN BRAINS
SUPPRESSED!
STANDBY WITH
HYPERTHREADING
ON FOUR MAJOR
NETWORKS!

UMMC
SONE-SAT
CLEAR!

ALL HOMING
MINES WITH
VIRUS ARRAYS
LOADED
ARE ACTIVE,
MA'AM!

SAT MAP



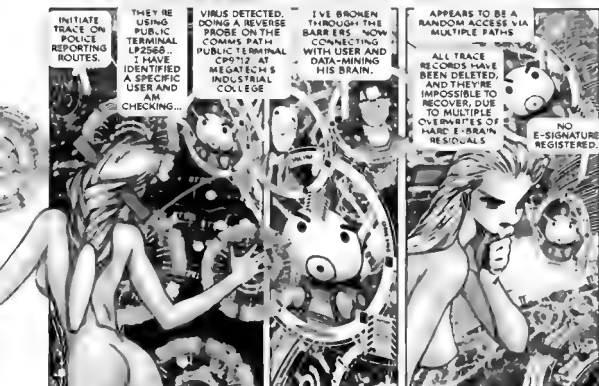
DO A FINAL
CHECK OF
PERIPHERAL
SECURITY!

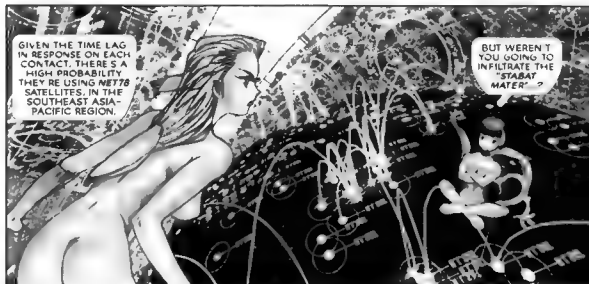
ALARMS ARE
OPERATING
ON ALL
FIBER OPTIC
NETWORKS
WITH SHAFT
ACCESS.

ACTION CONTROL
VIRUSES INJECTED
INTO SECURITY
PERSONNEL ARE
NOW IN
OPERATION

MAINTAINING
DISCONNECT
WITH
MOTOKO M2
DECOT!

MOTOKO M2: Name of the other Motoko decot, the one who has been stopped by security.





GIVEN THE TIME LAG
IN RESPONSE ON EACH
CONTACT, THERE'S A
HIGH PROBABILITY
THEY'RE USING MET78
SATELLITES, IN THE
SOUTHEAST ASIA-
PACIFIC REGION.

BUT WEREN'T
YOU GOING TO
INFILTRATE THE
"STABAT
MATER"?

YOU'RE STILL HERE? TELL
YOU WHAT-- IF YOU CAN
PROVE YOU'RE NOT AN
ILLUSION, COUGHED UP
BY MY SUBCONSCIOUS,
I MIGHT PAY ATTENTION
TO YOU

OUCH
THAT'S A
TOUGH
ONE

THE MORE
TIME GOES BY,
THE MORE THE
BROADCASTING
AREAS
SHIFT. HMM
THE SOURCE
MUST BE IN
MOTION.



ALONG
THIS
COURSE

WITH NO
CONSTRAINTS
FROM
LANDFORMS!

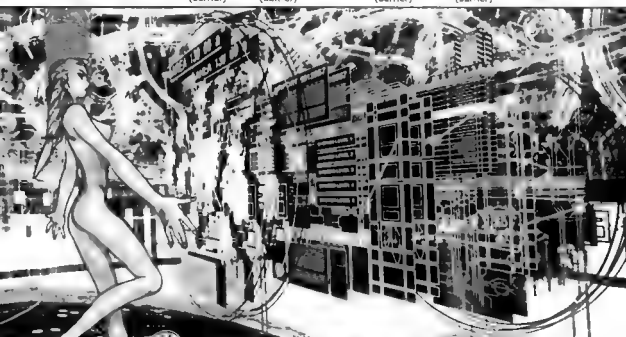
HOOK
ME INTO
THE AIR
TRAFFIC
CONTROL
SYSTEM
FOR THE
ENTIRE
AREA!

AREA MAP
(barrier)

AIRPORT MAIN SYSTEM
(barrier)

EMPLOYEE FILE
(barrier)

AIRPORT MAIN SYSTEM CORE
(barrier)



BARRIER 128
NOW
CLEARED!
BUILDING
ROUTE AND
EXECUTING
CONVERS ON

I'LL NEVER
BE ABLE TO
QUIT
MY JOB AFTER
EXPERIENCING
THIS KIND OF
POWER

TARGET
GROUPS

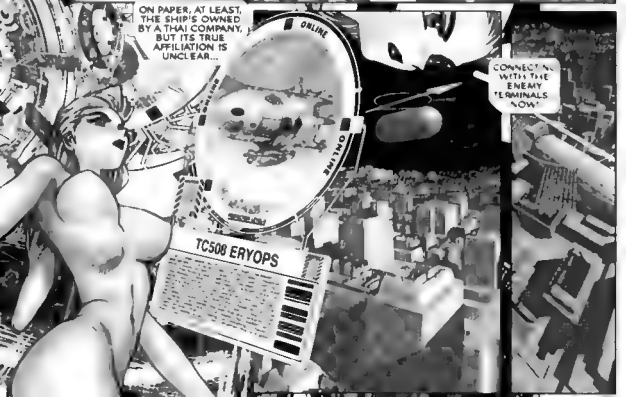
I CAN SEE
THE AIRSHIP
WE'RE
INTERESTED
IN AND
EVERYTHING
AROUND IT,
TOO...



ON PAPER, AT LEAST,
THE SHIP'S OWNED
BY A THAI COMPANY,
BUT ITS TRUE
AFFILIATION IS
UNCLEAR...

ONLINE

CONNECTING
WITH THE
ENEMY
TERMINALS
NOW!

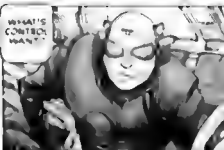


TC508 ERYOPS

THIS IS
AREA 199
CONTROL 09
COME IN
YCS08!

WE HAVE A RANK
THREE ENEMY
AN ADVANCED
DEFENSE SYSTEM
IS IN WHAT'S
APPARENTLY A
HUMAN BRAIN
685 MINES
CLEARED, ARRAY
56 HIT.

THIS IS
YCS08
HOW CAN
I HELP
YOU?



WHAT'S
CONTROL
WANT?

HEY! LISTEN
TO THIS
FRANCO!

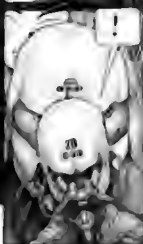


HEY! THESE GUYS
ARE JACKED FULL
OF DRUGS! TOO
DANGEROUS TO DO
A FULL SENSORY
INJECTION... THAT
LEVEL OF BRAIN AUTO-
PILOTING MEANS
THEY'RE ALMOST
UNSTOPPABLE!



WHERE
IS THE
BIGGEST
BARRIER?





WHOA...
THIS GUY'S
BODY IS
SOAKED
IN DRUGS.

DRUGS
ARE THE
FUTURE

THE DRUG'S AN ACTH
SUPPRESSANT CALLED LCH250R.
I CAN'T TELL HOW MUCH IS
USED, THOUGH...APPLYING
VARIABLE CORRECTION BIAS
TO YOUR LINK,
HANG IN THERE

HMM...AS
EXPECTED,
THEY PUT A
LOT OF
MONEY
INTO THIS
FACILITY.

CURRENTLY
ESTIMATING SITE
LOCATION...
CANDIDATE AREA
IS SHRINKING...



TO BE CONTINUED...

INTERFACE

Send email comments to interface@darkhorse.com

Send snail mail comments to:

interface
c/o Dark Horse Comics
10955 SE Main St.
Milwaukie OR 97222

Interface,

For insight into the future of the human condition, I believe it is not good idea to look at the future.

There is an article at www.betterhumans.com called "Summing the Posthuman through Science Fiction Stories" about humanity's future and why it's time we where our dance with technology will lead.

If we think of human evolution as a line, and the prism of technology, then the obvious question to pose is what might shine out from this prism. What are the possibilities through it? What possibilities might the future of intelligent life hold?

This is heady territory, misty, murky and unclear. Right? Not necessarily. There are patterns about, leading from this fog as guideposts for us to the possibilities.

When we address one of these large issues such as the possible effects of technology on human evolution, much of the mental work on this question has already been accomplished by several generations of science-fiction writers over the past hundred-plus years. A survey and collation of their ideas reveals no less than twenty-one possibilities to date – twenty-one ways of being which humanity might evolve towards, or which might evolve alongside us.

Out of the positioning of the twenty-one markers, three distinct patterns emerge: The Path of the Future, the Path of the Machine, and the Path of the Merging.

Shirow's work on the B.I., the Decet, and the Hectet Human account for three of the twenty-one markers. And that's not mentioning that Kaseenji is an excellent example from one of the other categories, the Cyborg.

If his work is starting to be taken seriously as possible evolutionary futures for humanity, then that speaks to the power and clarity of his vision. One can only wonder what he might come up with next, which very well could be the daily reality in a hundred years.

Glenn Hough, M.S. – Studies of the Future

Glenn, you've certainly raised the bar for letters of comment! While I must confess a soft spot in my heart for these thought-provoking missives that put forth the proposition "Westernizing sushi" or ask the timeless, burning question "Where's the orgy scene?!", I must say that your email is just about the most interesting analysis of Shirow's work I've seen so far. I have absolutely no idea what you're talking about, of course, but that's my cross to bear, not yours. Seriously, though, Shirow is as wired-in as any current storyteller to the possibilities of technology and the inevitable breakdown of what defines human and machine. I think what impresses me most is the almost matter-of-fact nature with which Shirow handles the subject, as if he were writing for a future, rather than contemporary, audience. My guess is that I'll re-read MM1 in twenty years and finally get it!

And, by the way, you wrote that article on betterhumans.com! Crafty, these Future Studies types. Now that you're exposed to the light, let's have a round of applause for a well-written, interesting piece. Everyone, go read it right now...then explain it to me.

I just finished reading issue #3 of *Ghost in the Shell* 2. It's probably a bit late in coming, but, in answer to Mr. Shirow's questions on page 15 (??? the pages aren't numbered so it's hard to tell...it's the page just to

the rest of the comic staple); yes, it is possible to run a network over ordinary electrical wiring, it works reliably, and it is safe. However, for a variety of reasons, it's not likely to ever be popular. Home networking of the future is more likely to be done using WAP or some other wireless protocol.

Having answered his questions, however, I now have a couple of my own.

First, my local comics store managed to obtain a copy of the deluxe edition of issue #1 but can't seem to find deluxe editions for any other issues. Do/will deluxe editions for the rest of the series exist? If so, how can I get them?

Also, I noticed that, starting this issue, *GitS* suddenly went from being rated as MM to MA. While the story also works well in this format, I can't help but wonder why. ~~There's always someone~~ Is there anyone allowed to talk about the reasons behind the sudden change?

It's a great series so far. Keep up the good work. :)

Siege

There was indeed only one deluxe edition of MMI, for the first issue. Actually, the limited edition came about pretty much by divine accident. One of our printers was doing a heliofoil job for another client, with a run of about 2500 copies, but there was some extra room on the sheet, and would we be interested in getting in on the job? We thought it would be fun and look cool—and did it ever!

As to why the book shifts from color to black and white, there are a couple of reasons. Most manga are originally serialized in primarily black-and-white anthologies that have a few color sections, mostly for advertising, but some features will get the chance to have a chunk of the color section, and color art is produced accordingly. This was the case for the Young Magazine serialization of Man-Machine Interface, but Mr. Shirow added over a hundred pages of new color story pages after MMI had originally concluded its run. Most of the material you've seen in the first five Dark Horse issues was created after the initial serialization, which was primarily created in black and white. The series still has some of the original color sections from Young, and so the series begins in glorious color, bounces back and forth between amazing black and white and more glorious color for awhile, and then roars down the home stretch in even more glorious color. This is all probably far more than you ever wanted to know, but you asked!

Dear Interface,

Greetings from the Philippines! Yup, there are many fans of *GitS* here! Just finished reading issue #2 of *Man-Machine Interface*. The story is very different from its early version, but I liked it very much. The art is now better and the girls of MMI are sexier than ever! I love that all of its pages are in full color. Surely, fans like me won't complain on the changes made by Mr. Shirow.

The story is really great! And the concept of Motoko having different bodies (agents) is a great idea! Now we can see the different faces of Motoko! I can't wait for the other issues. When will you release the graphic novel version?

Well, one more thing, about the "Remotely Controlled Humanoïd Terminal," regarding Mr. Shirow's note about whether Clarice needed to wear underwear. Well, in my opinion, whether cyborg, Controlled Humanoïd Terminal, or whatever you call it, they should wear underwear! In order for other humans to accept cyborgs as "human," they must follow human ethics and morals (like wearing underwear).

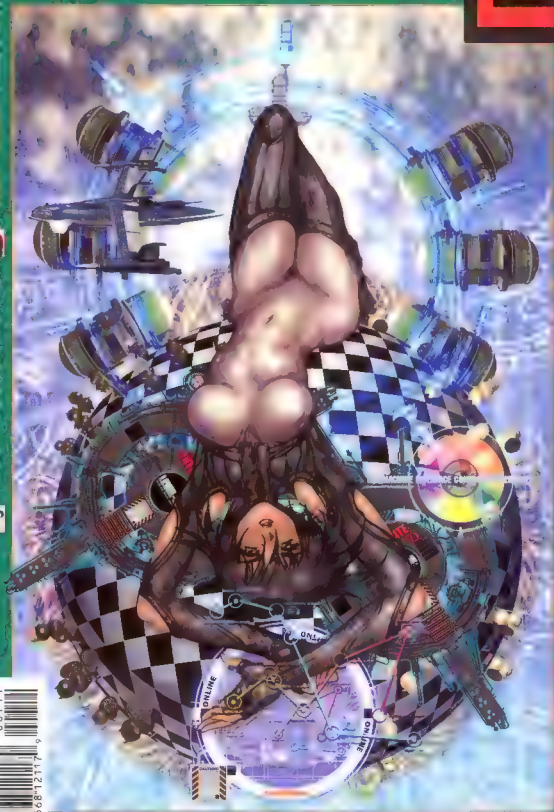
John Jasper Guce

You've obviously given this underwear issue some thought, John! Frankly, I'll be satisfied if more humans start wearing underwear! As for the Man-Machine Interface collection, plan to see it in spring of 2004. And I think it's fairly safe to say that, ethically, graphic novels are not required to wear underwear!

GHOST IN THE SHELL

NEW DASHING ILLUSTRATION

2



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MASAMUNE SHIROW

GHOST IN THE SHELL
MAN-MACHINE INTERFACE

攻殻機動隊

ISSUE # OF 11

STORY AND ART BY
MASAMUNE SHIROW

TRANSLATION BY
FREDERIK L. SCHOOT AND TOREN SMITH

この物語に登場する
様々な設定や解明や場
面は全て空想の産物で
あり、現実とは無関係
の娯楽物です。誤用を
誤る事無くお楽しみ頂
ければ幸いです。
またデッチ上げや半ミ
ックの「誤用」による
二次被害には当方責任
を負いかねます点を御
了承願います。

LETTERING BY
TOM ORZECOWSKI
AND **DAN JACKSON**

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2

OPEN

MAN-MACHINE INTERFACE SYSTEM



WARNING: READ ME FIRST!

Before we begin the exciting world of *Star Wars* roleplaying, we want to make sure you understand the rules of the game. This is a game of imagination, and it's important to play responsibly. We want to make sure you have a good time, and we want to make sure you're not causing any trouble. Please read these rules carefully, and we'll be on our way to a great game.



The game of *Star Wars* roleplaying is a game of imagination. It's a game where you can be a Jedi, a Sith, or a Rebel. It's a game where you can explore the galaxy and discover the secrets of the Force. It's a game where you can be a part of the *Star Wars* universe. We want to make sure you have a good time, and we want to make sure you're not causing any trouble. Please read these rules carefully, and we'll be on our way to a great game.

APOLOGIES AND CORRECTIONS

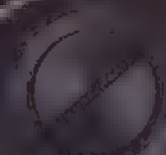
We at *Star Wars* roleplaying are sorry to hear that you had a bad experience. We want to make sure you have a good time, and we want to make sure you're not causing any trouble. Please read these rules carefully, and we'll be on our way to a great game. We want to make sure you have a good time, and we want to make sure you're not causing any trouble. Please read these rules carefully, and we'll be on our way to a great game. We want to make sure you have a good time, and we want to make sure you're not causing any trouble. Please read these rules carefully, and we'll be on our way to a great game.

—samune Shirow

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Carlsbad, CA 92008

Wizards of the Coast





CODE
BROKEN
VIRUS CHECK
CLEARED...
CONVERSION
IN PROCESS!

AN INTERCEPT...?
CAN'T BE THAT
ENCRYPTION?

NOW
CONFIRMING
ADDRESS OF
ENEMY'S
PHYSICAL
LOCATION
DEPLOYING
ROUTE
ARRAYS.



UNIT
20. ONE
WE A
REPLY ON
COMING
AT THIS
POINT
FIGHT TO

WHAT'S
CALLED
THE
PROBLEM



E-THUGS
EXECUTING
OVERRIDE
ACCESS ON
AID
BARRIER
ZETA-4 IS
BEING
DECOMPRESSED!

ALL STAFF
LEAVE THE
STAGE. THE
KID GROUP
WILL FIGHT
FOR THE
WOLF

MAKE THE
SYSTEM
INTERCEPT
PROTECT THE
ADDRESS WITH
A TOTAL
BARRIER

MUST BE HARD-
WIRED... IF WE GET
PHYSICALLY CLOSE
TO THE ONE IN THE
MIDDLE, WE'LL
DISCOVER IT. JUST
TO BE SAFE.

NOTE: The character in the middle of the page is a reference to the character in the anime "The Wolf of the Black Mountain". The character in the middle of the page is a reference to the character in the anime "The Wolf of the Black Mountain". The character in the middle of the page is a reference to the character in the anime "The Wolf of the Black Mountain".

MILLENNIUM...?
STABAT MATER'S
CYBERDOME
ARTIST?

WE HAVE AN INCIDENT
OCCURRING IN TACTICAL ZONE
MP15. FIVE LONG HAUL TRUCKS
HAVE BEEN LOCATED IN A
FIVE-KILOMETER RADIUS, BROAD-
CASTING AN ILLEGAL HIGH-POWER
WI-FI NETWORK. WE ARE
SUPPRESSING THEM AND MOVING
IMMEDIATELY TO THE SITE

muinnellim

HMM

I APPRECIATE
THE
INVITATION,
BUT WHERE'S
MR. KIRII?

YIKES! THIS
LAYOUT LOOKS LIKE
THE FAMOUSLY
EFFECTIVE
SANADAMARU
DEFENSES OF
OSAKA CASTLE
IN MEDIEVAL
DAYS!

13722M

AH...THIS IS
THE SAME
GUY WHO WAS
SLEEPING
NEXT DOOR
ON THE
AIRSHIP

00000000000000000000

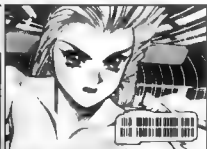
At this point, Mutoko can't see the entire system because she hasn't yet infiltrated Millennium. She only has access to the information that the airship pilot (Fracto, aka Unit 28) has, but Stabat Mater consists of more than what she can currently view through him. I confess that I probably should have given Millennium a more feminine sounding name, such as "Milenna" or "Milennetta."



WELCOME
TO
STABAT
MATER



I'VE NEVER
MET AN
AI GRADE
E THUG
BEFORE



Millennium usually makes his/herself appear in this type of form, out of habit, but Motoko doesn't appear to Millennium the way she's depicted here. Millennium is only aware of Motoko's existence. Sort of like being aware of a ghost in the darkness of the night.

AFTERNOON...
I'VE COME TO
RETURN THE
PRESENT

THE ONE THAT
REJECTED ANY
ATTEMPT TO READ
IT .I'VE BEEN
TRYING TO KNOW
HOW THE SENDER
WOULD RESPOND

AAH . BUT I DIDN'T EXPECT
IT'D BE ACCEPTED IN AN
EJECTION SPACE, AND THAT
JUST ONE DECOY WOULD BE
SACRIFICED . I WANTED TO
SEE SOME MORE ORIGINAL
ANTIBODIES USED.

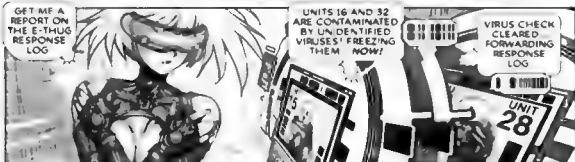
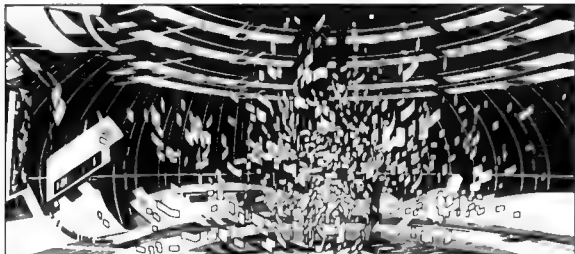
WAIT A
SEC . THIS
EJECTION
SPACE
IS ???

ISN'T THIS
THE SAME
RESPONSE
AS THE
MISTRESS?
HOW
UPGRADING
TACTICAL
ARMIES

ENEMY
ATTACK-
BARRIERS
HAVE
PENETRATED
LAYER TWO!
WE HAVE
NEUTRALIZED
THEM AT
LAYER THREE!

IT MUST BE
A VIRUS THAT
COMBINES
AND
ACTIVATES
WITH THE
SEARCH DATA
IN THIS
ROOM!

WHAT
TH...?!





SET UP A
DETOUR
FOR THE
INVADER!

LYN FOR
DEATH WAS
CALLED
DREATHING

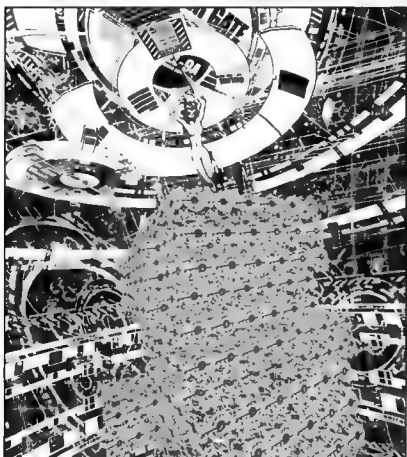
WE
HAVE A
TYPE 180
ERROR!

REBUILDING
ATTACK
BARRIERS
LOADING
ANTIBODIES!
VIRUS
ANALYSIS IN
PROCESS

DEFENSE
SYSTEMS WILL
IL 001
BY PHOTON

ON UNIT
A TYPE 180
ERROR
BARRIERS
A TYPE 180
ERRORS
RETURNED

NOW SEARCHING
FOR VIRUSES
ACCESS
PERMISSION
GRANTED AT
PRIORITY LINE ON
LEVEL FIVE



THIS IS THE
OUTER PERIMETER
OF A BIOBRAIN
ARRAY. SHOULD
LEAD INTO THE CNS





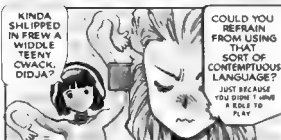


WELL ? DID
YOU TEACH
HER A
LESSON?

OF
COURSE



LOOKS LIKE THE
COMPOUND
VIRUSES I
INFILTRATED INTO
EACH REPORT FROM
UNIT 28 WERE
SUCCESSFULLY
ACTIVATED



KINDA
SHLIPPED
IN FREW A
WIDDLE
TEENY
CWACK,
DIDJA?

COULD YOU
REFRAIN
FROM USING
THAT
SORT OF
CONTEMPTUOUS
LANGUAGE?

JUST BECAUSE
YOU DIDN'T HAVE
A ROLE TO
PLAY



NO ROLE
TO PLAY?
WELL,
WE'LL SEE
ABOUT
THAT
HEM HEM
HEM

LEVEL SIX
BARRIERS
RELEASED...
STAND BY
FOR
ACCESS!



JUST TO BE
SURE, CHECK
THE
PERIMETER

GIVEN THE
RESPONSE RATE,
THERE'S A 98%
PROBABILITY
THAT THIS BRAIN
IS THE SOURCE,
MA'AM.

98%...? HMM...
THEN I'M
WORRIED
ABOUT THAT
REMAINING 2%
ANALYSIS...?

THERE ARE
THREE
DECATONCALES
IN THE KNOWN
UNIVERSE, SO
WITH EIGHT
ROUTES A BRAIN
IS MANIPULABLE
AT 2%.

IN THAT CASE,
START WITH ALL
EXTERNAL
CONNECTIONS,
HARDWARE
MAPPING.
POWER-USE
DISTRIBUTION...

...AND
SEARCH FOR
ANY ANTI-
IMMUNE
FACTORS
AROUND THE
GHOST
LINE.

DON'T YOU WANT TO FIND OUT WHY MEDITECH HQ WAS ATTACKED?

OF COURSE, BUT WE CAN DO THAT LATER

FOR NOW, I WANT YOU TO COLLECT INFORMATION RELATED TO THE ATTACK AND ON OUR OPPOSITION, ANALYZE AND RECORD IT IMMEDIATELY, AND THEN HARDWIPE IT TO SECTION 9 STANDARD.

BUT IF WE DESTROY ANY MOTIVATION-ELEMENTS AT LEVEL SIX, IT GETS HARD TO MAINTAIN INDIVIDUALITY AND PERSONALITY...

AND WHAT'S WRONG WITH THAT?

MM...YOU'RE RIGHT...THAT IS WEIRD.

THERE ARE NO ASSOCIATED REPORTS... AND THE ONLY TRANSMISSION REGISTERED IS IN THE "REFLECTED" CATEGORY.

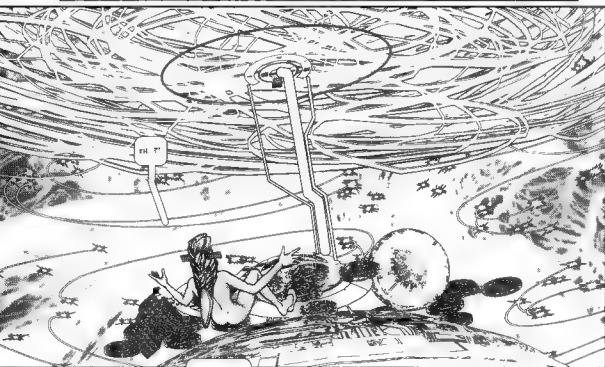
THERE'S NO OPERATIONAL RECORD FOR THE LASER TERMINAL SERVO-MOTORS, EITHER.

WE'VE GOT TO THINK OF THE INTERESTS OF ALL THOSE CUSTOMERS WAITING FOR TRANSPLANTS... YES?

AH...THAT'S A COMMENT YOU WANT "ON THE RECORD," RIGHT?

MISTRESS! GATE V7 ON ALL OPTICAL TERMINALS IS ACTING WEIRD...

??





EIGHT DECOYS
HAVE SUSTAINED
DELTA-LEVEL
DAMAGE.

NOW PHYSICALLY
DESTRUCTING ALL
REMAINING PEEK
NEURO-MATTER.

ANALYZING
ENEMY
VIRUSES



I'VE ARRIVED
AT THE CORE
BODY. MOVE
THE DEFENSE
LINE UP TO
MILLENNIUM'S
BRAIN.

SECOND
ANTIBODY
ARRAY'S
COLLAPSE.

NO TIME
FOR
REPAIRS!



DAMN, COULD
THE ENEMY BE
USING A
DECATONCALE,
TOO?

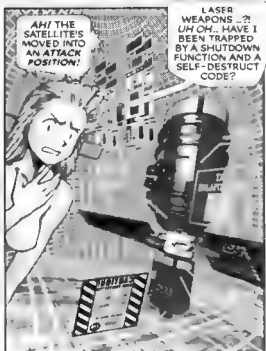
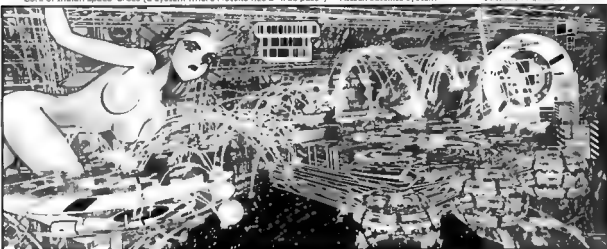
RECONSTRUCT
ROUTE ARRAYS
AS FAST AS
POSSIBLE.

COMAN MAY
TRY AN ANCHOR
ON THE ENEMY
USING A PHYSICAL
ADAPTER.

DEPLOY A
COMPLETE MINE
BATTLESET D IN
MILLENNIUM'S
BRAIN AND ALONG
ROUTES WHERE
THEY MIGHT
BE...DO A FULL
BLOCK SEARCH
AS WELL!



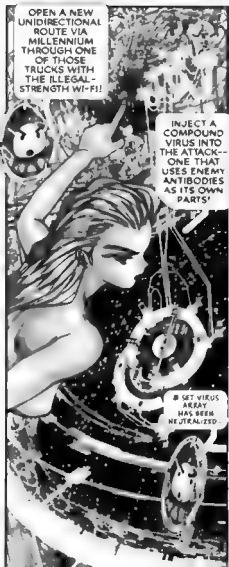
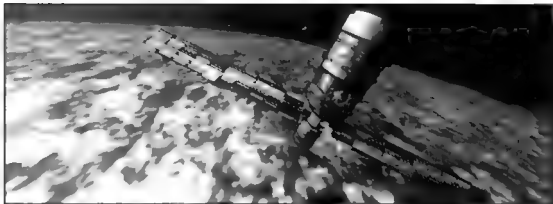




LASER WEAPONS...? UH OH... HAVE I BEEN TRAPPED BY A SHUTDOWN FUNCTION AND A SELF-DESTRUCT CODE?

I HATE IT WHEN SOMEONE CONTROLS THE SPACE ABOVE ME!

WE'RE GONNA HAVE A HEAD ON COLLISION!



TOY-BOMB. Incorporates parts of compound viruses into small file elements, such as thumbnails or icons. Often included in videogame image files, therefore called "Toy-bomb". Can't be used to deliver complex AI, but has considerable generic function.



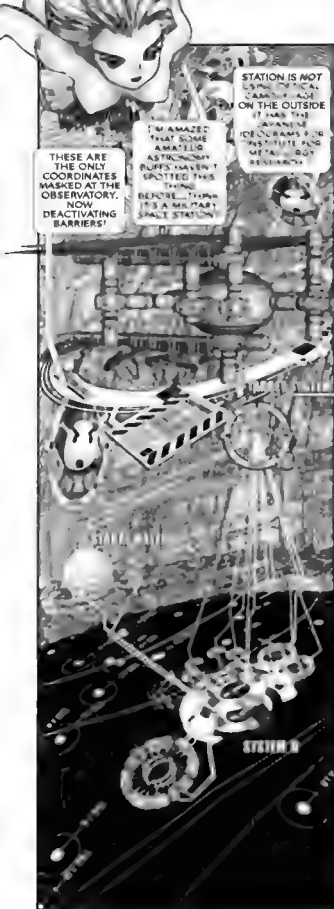
DEAL WITH THE
TOY-BOMB HIT
REPORT AFTER
MAX'S VIRUS
HAS BEEN
EXTRACTED AND
ANALYZED

RIGHT!
I'LL SEAL
HIM OFF
AND WAIT

WE'VE DETECTED
A FACILITY AT
LRO SATELLITE
ALTITUDE FROM
THE VLA AT
MAUNA KEA.
IT APPEARS TO
BE AN ENEMY
OBJECT, A
PHYSICAL OBJECT...
GENERATING
IMAGES

LEX!
PROTECT
HANNIBAL'S
PERIPHERY!





THESE ARE THE ONLY COORDINATES MASKED AT THE OBSERVATORY. NOW DEACTIVATING BARRIERS!

I'M AMAZED THAT SOME AMATEUR ASTROPHYSICISTS HAVEN'T SPOTTED THIS YET. BEFORE, THOUGH, IT WAS A MILITARY SPACE STATION.

STATION IS NOT USING OPTICAL CAMERAS. ALL ON THE OUTSIDE IT HAS THE JAPANESE ICE CREAMS AND THE WHITE PINK METAL. GOT REMINDERS.

I'VE GOT COORDINATES ON A SILHOUETTE THAT LOOKS LIKE AN ANTENNA.

SET UP A NEW ROUTE FROM TERMINALS IN HEADQUARTERS' AREA.

AND THE STATION'S MATERIALS AND ANALYSIS FACILITY COORDINATES TO ALL NEARBY SPY SATELLITES.

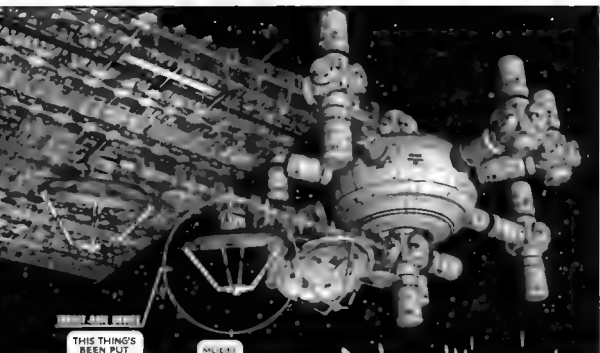
ENEMY SCAN HAS PENETRATED LEVEL THREE OF DECATONAL.

THE OBSERVATORY'S MAIN POWER JUST WENT OFF! LOOKS LIKE A POWER OUTAGE IN THE WHOLE REGION... EMERGENCY BACKUP GENERATORS GOING INTO OPERATION!

DEPLOY MASTER SET OF MINES IN THE REGION'S AIRCRAFT CONTROL AND MILITARY FACILITIES... WITHDRAW FROM OBSERVATORY!

NOW ACCESSING ENEMY FACILITIES...

DEPLOY MAIN FORCES AROUND AREA.



THIS THING'S
BEEN PUT
TOGETHER
FROM UNITS
MADE BY
POSEIDON
INDUSTRIAL

SHOULD
YEAR
2001



THE
ARRAY WILL REACT
IN EIGHT SECONDS!

DISCONNECTS
AND MAZES...
THIS IS REALLY
AN IMPREGNABLE
FORTRESS!

ASUS-UFU'S
MAZE 82 HAS
BEEN
FINISHED!



IN 2001 CASES
TERMINALS
WERE ONLY FOR
SENSING VIA
THE CONTROL
PANEL, 100%
WERE
DISCONNECTED
OR STEALTHED.

STRANGE THAT I
NEVER RAN INTO
THIS ENEMY
BEFORE IN MY
TIME WITH THE
COMPANY. THESE
MINES ARE ALL FIRST
TIME USE, TOO...

THE ENEMY'S
IMPLANTING AN
ANCHOR ON
THE MARKERS
PERIMETER!

MISTRESS! BRAIN
ACTIVITY HAS
REACHED A
DANGEROUS
LEVEL! WANT TO
INJECT SOME
SUPPRESSANTS. ?

NON

WAAA YOU
CAN REALLY
SEE THE
MYSTERY OF
ORGANIC
OBJECTS
FROM HERE.

WE HAVE A
UNIDIRECTIONAL
DISCONNECT ON THE
MAIN POWER
CONTROL PANEL.
THIS ROUTE IS NOT
INFILTRATABLE

MISTRESS,
OUR CPU IS
ONLY 5% AWAY
FROM MAXIMUM
THRESHOLD.
WE'RE BURNING

WE'RE GETTING
INDICATIONS
THAT
FIREPOWER
CONTROL
MINES HAVE
BEEN
ACTIVATED IN
A STRATEGIC
NUCLEAR SUB
BELONGING TO
THE U.S.
PACIFIC FLEET!

IT'S NOW
CHANGING
COURSE
AND
MOVING TO
ATTACK
DEPTH.

INITIATE
INTERCEPT
SCENARIO! GO
IN THROUGH
THE NAVIGATION
SYSTEM... AND
WATCH OUT
FOR MINES!

THE OLD PRIMARY
REFLECTOR PANEL WAS
RECENTLY REMOVED FROM
THE HUBBLE 3 TELESCOPE
DELTA-VEE IT INTO LINE OF
SIGHT WITH THE ENEMY
FACILITY AND PREPARE TO
USE IT TO FRY THE POWER-
GENERATOR PANELS

COMMUNICATIONS
BURY SIGNAL
CONFIRMED VIA
SPY SATELLITE!

IT'LL TAKE A
LITTLE WHILE
TO DO THAT
ONLY ONE OF
THE SHUTTLE
CREW HAS AN
E-BRAIN..

D SET
VIRUS ARRAY
WILL BE
NEUTRALIZED
IN FOUR
SECONDS!

L52 BARRIER
HAS
DISINTEGRATED!
ENEMY HAS
INFILTRATED
DECATONCALE!

ACTIVATING
ALL ATTACK
BARRIERS!

NO
RESPONSE
IN 60S!

125 DECOYS
HEAVILY DAMAGED!
LINKS HAVE BEEN
IDENTIFIED..

UPDATE
WORK ON
PRIORITY CODE
FOR SECTOR L
IS CURRENTLY
BEING
ROTATED
OUT.



ENEMY ATTACK-BARRIERS HAVE FUSED WITH ANTIBODIES AND PIERCED OUR BARRIERS! SECOND ARMED CONTROL SYSTEM IS CONTAMINATED!

DISCONNECT TERMINALS! VALKYRIE! START RESTORATION WORK!



MMM...TO CREATE A HIDDEN DECATONCALE AND PROCURE BLACK SHUTTLE LAUNCHES... NO ONE COULD CARRY OUT ILLEGAL ACTS ON THIS SCALE...

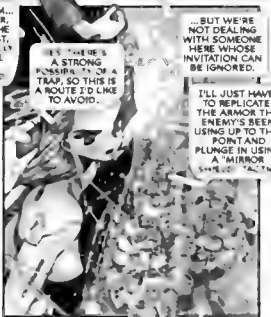
...UNLESS THEY CONTROLLED ONE OF THE COMPANY'S TOP EXECUTIVES


BUT MA'AM... REMEMBER, IT WAS THE PRESIDENT, SPECIALLY WHO THE ENEMY ATTACKED

IT'S THERE'S A STRONG POSSIBILITY OF A TRAP, SO THIS IS A ROUTE I'D LIKE TO AVOID.

...BUT WE'RE NOT DEALING WITH SOMEONE HERE WHOSE INVITATION CAN BE IGNORED.

I'LL JUST HAVE TO REPLICATE THE ARMOR THE ENEMY'S BEEN USING UP TO THIS POINT AND PLUNGE IN USING A "MIRROR SHIELD" TACTIC





MAX! YOU'VE
RECOVERED? DO A
CHECK FOR ME. SEE
IF THERE'S SOME WAY
TO BREAK THROUGH
THE DECATONCALE'S
DANGER-AVOIDANCE
SYSTEM, OR ITS
PARALLEL SETTINGS!

I'M
INFILTRATING
THE
COMPANY
PRESIDENT
VIA HIS
SECRETARY'S
SAFE ROOM KEY
ASSIGN
BACKUP
INFORMATION
4-1!

ENEMY HAS
CRACKED THE
ARMED SYSTEM
MAZE! 00:02:12
ESTIMATED 'TIL
BREAKTHROUGH!

BARRIERS
NOW
PENETRATED!
PRESIDENT'S
BRAIN
INFILTRATED
UP TO LEVEL
4...

BACKUP
CONTROL
SOFTWARE
GIMMI 34 15
NOW
SUPPRESSED...
DEPLOYING
PERIPHERAL
BARRIERS!

PRESIDENT IS
IN DIVE
MODE...WANT
TO GO TO
LEVEL 5?

NO... FIRST
LINK WITH
THE
PHYSICAL
BODY...

TO BE CONTINUED...

2

OPEN

MAN-MACHINE INTERFACE SYSTEM



INTERFACE

Send email comments to interface@darkhorse.com

Send snail mail comments to:

interface

c/o Dark Horse Comics

10956 SE Main St.

Milwaukie OR 97222

We're going to do something a little different with Interface. You might remember a very interesting letter last issue from Glenn Hough relating Shirow's work and themes to Future Studies and plugging a website with a full article on the subject, written by Glenn. Well, I went to the site and read the article, and I was duly impressed (great site, by the way - betterhumans.com) with what Glenn had to say, so impressed that I contacted him and asked if he'd mind if we reprinted the article here. To make a long story short, the article follows. Enjoy!

-Chris Warner

Exploring the Posthuman through Science Fiction

by Glenn Hough, M.S.

If we think of human sentience as white light, and the prism as technology, then the obvious question to pose is what might shine out from that prism when we shine our brilliance through it? What possibilities might the future of intelligent life hold?

This is heady territory, misty, murky and unclear. Right? Not necessarily. There are markers ahead, looming from this fog as guideposts for us to the possibilities. The destination, if there is one, is unclear, but the pathways are becoming clearer.

Thankfully, the science fiction genre offers us an opportunity to speculate and imagine what the human condition - or more appropriately, the posthuman condition - will be like in the decades and centuries to come.

Science Fiction and Future Studies: A cauldron of ideas

It has always been my belief that future studies and science fiction revolve around each other as if they are gravitationally attracted to each other. Both are about ideas. Where one is speculative fiction on the future, the other is a quantitative and qualitative methodology for use in the present. When the two intermix, the future isn't such a surprise.

Both ask questions concerning the possible, the plausible and the preferred. At times, the speculations of one turn into the reality the other must concern itself with.

When we address one of these large issues such as the possible effects of technology on human evolution, much of the mental work on this question has already been accomplished by several generations of science fiction writers over the past 100-plus years. A survey and collation of their ideas reveals no less than 21 possibilities to date - 21 ways of being which humanity might evolve towards, or which might evolve alongside us.

Out of the positioning of the 21 markers, three distinct pathways emerge: The Path of the Canon, the Path of the Machine, and the Path of the Merging.

The Path of the Genes

Organic intelligences will likely be manifested as unaugmented humans, human clones, the genetically enhanced, the genetically transformed, replicants, and the X-factored.

Despite the dramatic potential for posthumanism, it's a safe bet that humans and human clones will reside in the future. This might sound like a strange place to start when we consider the question of technology's future effects on our being, but we must understand, even at the best of times, evolutionary forces do not touch the whole species.

When humans go through the prism of technology, a percentage will not be affected — as they are Luddites, a religious sect such as the Amish, or a native tribe dedicated to ancient ways. Thus, for a variety of reasons, the more conservative and traditional science-fiction speculations reveal unaugmented humans trekking around the galaxy.

Whereas a clone is a copy of pre-existing material, a genetically enhanced being is one who has made small modifications to its genome, much as the people depicted in *Gattaca* or Keyse from the anime *Phonon*. In effect, such posthumans strive to eliminate genes that contribute to things they wish to avoid and add genes for things they consider desirable.

The genetically transformed are distinct from genetically enhanced posthumans by the sheer amount of variation made to the genome. In essence, there is so much adding and subtracting of material that the end result is a new, viable race. Muto from the anime *Blue Sub 6* is an excellent example.

Replicants, such as the ones featured in *Blade Runner*, stand between clones and the genetically enhanced. Replicants are formed from a combination of pre-existing genetic material and biological enhancements. Essentially, they are robots, but made of biological substrate. And as with other robots, they are born into the world at a predetermined point in their lifecycle and with a specific purpose in mind, such as manual labor. As do the replicants of *Blade Runner*, perhaps these future lifeforms will have implanted memories and short lifespans.

The last category in this pathway, the X-factored, is at the very fringes of modern science. X-factored humans represent what may be achieved through the cognitive evolution towards such things as telekinesis, telepathy, or empathic ability, to name a few. David Cronenberg explores some of the darker issues of this potential in his horror science-fiction classic *Scanners*. Stanislaw Lem also explores the ideas in *Solaris*, and the anime *Akira* is also a classic example.

The possibility exists for technology to help us gain a greater understanding of these phenomena and assist in creating the conditions for a greater segment of the population to slowly gain ability in this area due to natural or enhanced evolution.

The Path of the Machine, Part One

Intelligent life will also take the form of inorganic life, namely robots, droids, androids, and cybers.

Again, "robot" might sound like a strange place to start when one is talking of the future, since there are all kinds of robots currently in the marketplace. But the robot is a bedrock category, much like human is for the first pathway. Robots are here, and they're not going away, both in science fiction and in reality.

The difference between the robot and the droid is one of sophistication. The robot can have any configuration and is totally programmed. The droid can still look like a rolling trashcan, as does R2-D2 in *Star Wars*, or it can be a humanoid like C-3PO. A droid's programming will be sophisticated enough so that we might wonder if it is approaching, or has crossed, the advanced sentence:

threshold, the droid is aware of itself and its relationship to its organic masters. The robot obeys because it's programmed; the droid obeys because it understands and accepts the rule that society has for it.

Androids will exhibit human-equivalent sentience and possibly even appearance. Seeking individual rights and equality within the context of human society would be a normal pursuit for an android. Through the use of self-programming, androids will be capable of advancing themselves. Isaac Asimov's *Bicentennial Man* and Steven Spielberg's *A.I.* deal with these particular issues.

Cybers, such as the ones depicted in *The Terminator*, and natural humans will be virtually indistinguishable from each other. The main difference between the cyber-beings and their predecessors is that they will reside in a place outside of the human context. Whereas robots and androids will always fit within the human context, cyber-beings will have their own framework, just as any distinct race would. The cyber-beings will have their own issues in the political, social, and interpersonal realms.

The Path of the Machine, Part Two

Humanity's relationship with its technologies will also move from the analog to the digital realm. Future intellects will reside as avatars, holograms, machine and digital intelligences.

An avatar is a semiautonomous program whose development is analogous to the robot or droid. At its most primitive it can handle only specific tasks. At its most sophisticated it can almost achieve a droid-like level of understanding and free will. Unlike the robot or droid, however, an avatar exists within the confines of a larger mainframe; it is but a piece of what that computer is doing.

As with an avatar, a holographic being is only part of a larger computer. Its understanding and level of self-awareness are at the droid to cyber range. It interacts, not as a program, but with the physicality of being a hologram, much like the doctor in *Star Trek: Voyager*; it appears as flesh and blood, but is made of photons and force fields. It is a being of light, bound to the single perspective of itself.

A machine intelligence will be a specific computer as a being unto itself and not just a part of what a computer is running. Like *2001's* Hal-9000, this is a being that will receive input and send output on multiple vectors, while thinking and acting in the traditional plurality of its machine heritage.

A digital intelligence is a subcategory of machine intelligence, but unlike the machine intelligence just described, digital intelligences will not be bound within the context of certain computers, and can exist within the context of any computer matrix they find themselves in. A digital intelligence will reside as a consciousness spread over many, if not all, servers. Digital intelligence can also refer to a being that spontaneously evolves within a network itself, much like the intelligence that evolved in the film *Ghost in the Shell*.

The Path of the Merging

The final path for posthumanity involves cybergs, like minds, uplifted nonhuman animals, plugged and nested humans, scanned minds, and decots.

The first step along the path of the merging is the cyberg — the cybernetic organism. It is the blending of humanity and machines through the integration of technology into the human body. The use of such things as eyeglasses, hip replacements, and pacemakers might be considered an early precursor to the widespread adoption of cutting-edge cyberg equipment of scientists such as Steve Mann and Kevin Warwick, who are already striving to become cybergs.

A number of science-fiction stories have explored this theme, including the television series *The Six Million Dollar Man* and the film *Robocop*.

When the trends driving the cyborg paradigm continue, a possible end point is the merging of human minds, through technology, into a single hive mind. Such minds and communities have been depicted in Frank Herbert's novel *Hellstrom's Hive* and through *Star Trek's* Borg.

With a hive mind, there are no individuals, just an overmind or metaconsciousness – essentially a literal collective consciousness. While this category has been portrayed in science fiction as nothing but evil, speculation exists that it doesn't have to be dystopian.

Uplifting describes any combination of genetic or cybernetic enhancements to a nonhuman animal. It's literally taking a cat, dog, dolphin, or monkey and bringing it closer to our level of sentience and intelligence. These themes are explored in many works by David Brin, as well as in such works as Larry Niven's and Steven Barnes' *Saturn's Shadow* and Daniel Keyes' *Flowers for Algernon*.

A plugged human is a human who still has a physical body but does not live in the physical world. The mind lives in a virtual world while the body is cared for elsewhere. This category has been mainly portrayed in science fiction as something to avoid, but in certain situations, it could be a blessing. Plugged humans have been depicted in such films as *The 13th Floor* and, of course, *The Matrix*.

Closely related to machine intelligence, scanned humans are human consciousnesses that have been uploaded into a computer, leaving the body completely behind. In effect, this is a mental clone or possibly even a continuer of an individual who has essentially achieved immortality. Advanced uploaded consciousnesses have been depicted in hard science-fiction novels, including Greg Egan's *Diaspora*.

Decats are individuals that can literally be in two places at once through the application of remote controlling and mind transference. The best example is Motoko Aramaki from *Ghost in the Shell 2*. To achieve this, a posthuman would utilize a cyberdroid at its disposal, so that he or she (or "we") can transfer consciousness to it at will.

The nested human is the next step in the evolutionary process of the decat. A nested human is a single consciousness that has spread over several bodies; the consciousness of each is nested within each other to form the whole. This is the reverse of the hive mind – instead of many into one, one is split into pieces, but each is required to form the whole.

MORE TO COME

This is the list as I knew it. Such speculations have given me considerable food for thought when it comes to the contemplation of current trends in technology and their impact on the human condition.

While some would seek to question just how possible or probable some of these categories are, I would rather ask a different question.

Regardless of the probability of any one category actually happening, the trend towards diversity and speciation is clear. The question then becomes this: Are we going to be ready for this multiplicity, or are we going to let our ignorance, fear, and reluctance to embrace change shape our response?

My many thanks to betterhumans.com for the original publication of this article.

Glenn Hough is a graduate of the Studies of the Futures Program at UH-CL, a member of the World Futures Studies Federation, and the author of three novels. He is currently engaged in the charge up the steep precipice of writing Science Fiction for Hollywood.

GHOST IN THE SHELL

MAN-MACHINE INTERFACE

2

ISSUE 8 OF 11

DARK HORSE COMICS

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DIRECT SALES



MASAMUNE SHIROW

GHOST IN THE SHELL
MAN-MACHINE INTERFACE

攻殻機動隊

ISSUE 9 OF 11

STORY AND ART BY
MASAMUNE SHIROW

TRANSLATION BY
FREDERIK L. SCHOOT AND TOREN SMITH

この物語に登場する
様々な設定や解説や想
念は全て妄想の産物で
あり、現実とは無関係
の娯楽物です。服用を
誤る事無くお楽しみ頂
ければ幸いです。
またデッチ上げやキミ
ツクの「誤用」による
二次被害には当方責任
を負いかねます点を御
了承願います。

LETTERING BY
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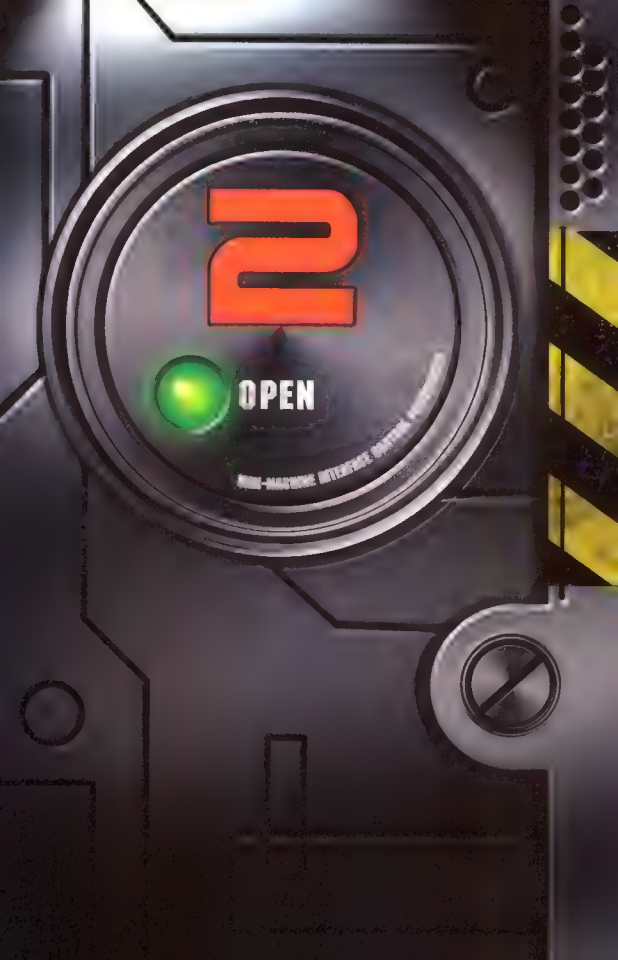
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2

OPEN

MAN-MACHINE INTERFACE SYSTEM



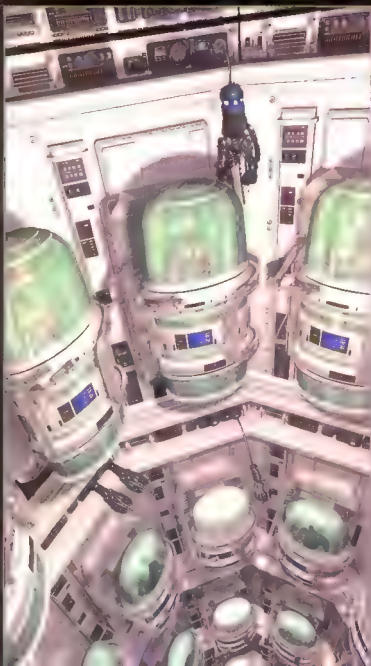


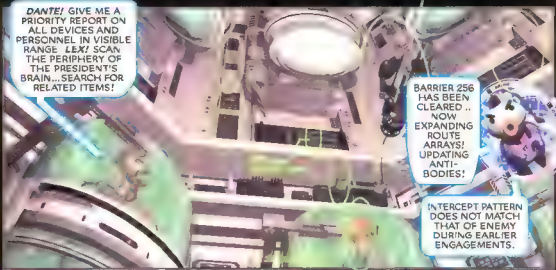


NOW CORRECTING
SENSORY
DEVICES...THEY'RE
'N TYPE H' GEL
IDENTIFYING WITH
OLFACTORY AND
'TASTE SENSES'


MAX...? GIVE
PRIORITY TO
IMAGE
ANALYSIS

AYE-
AYE, SAH?





DANTE! GIVE ME A PRIORITY REPORT ON ALL DEVICES AND PERSONNEL IN VISIBLE RANGE. LEX! SCAN THE PERIPHERY OF THE PRESIDENT'S BRAIN...SEARCH FOR RELATED ITEMS!



BARRIER 256 HAS BEEN CLEARED .. NOW EXPANDING ROUTE ARRAYS! UPDATING ANTI-BODIES!

INTERCEPT PATTERN DOES NOT MATCH THAT OF ENEMY DURING EARLIER ENGAGEMENTS.



SEEMS LIKE A FAIRLY LARGE-SCALE GROUP-BODY DEPOSIT FACILITY DESIGN ENGINEERING ASSUMES MICROGRAVITY...

NOW ANALYZING ROUTES! REGARDING THE PRESIDENT'S PHYSICAL LOCATION . THERE'S A 90% POSSIBILITY THAT HE'S AT THE SAME COORDINATES AS THE ENEMY DECATONCALE

AND THE OTHER 10%...?

THERE IS ONE FACILITY NOW ORBITING THE MOON FOR WHICH THERE IS A CLEAR OPTICAL COM PATH, BUT IT'LL BE ENTERING LOS IN LESS THAN SIXTY SECONDS

SO . THE PRESIDENT'S PHYSICAL FORM IS IN AN ENEMY FACILITY. HMM ...WONDER IF THE ENEMY SWITCHED PLACES WITH HIM SOMEWHERE?

OKAY . I'M GOING TO INFILTRATE THE ENEMY DECATONCALE THROUGH THE PRESIDENT'S BRAIN! I'LL APPROACH LEVEL 5 CAUTIOUSLY



TRACK IT UNTIL LOSS OF SIGNAL



?



THIS IS AN ORBITING BODY-DEPOSIT FACILITY CALLED SLEEPING UNIVERSE, WITH 202 RESIDENTS. IT'S SORT OF A "SECRET CLUB."

I'VE DISCOVERED A LIST OF FACILITY VIPS IN THE "CONNECTIONS" FILE.



THE FACILITY ITSELF HAS MEDIUM-LARGE VIRTUAL SENSORY SPACE

DETAILS...?

THEY'RE CHARTER MEMBERS, WITH FOUR TIMES THE NUMBER OF CONNECTING DEVICES AS OTHERS, THREE TIMES THE AMOUNT OF BACKUP POWER, AND CLOSEST PROXIMITY TO THE TWO ESCAPE PODS

THERE ARE ALSO TWELVE MAINTENANCE CEBOTS ON SITE.

LOOKS SORT OF LIKE THE STABAT MATER AND MILLENNIUM SET-UP, DOESN'T IT...?

LOOKS KINDA LIKE US, TOO. THIS ONE'S REGISTERED UNDER "MOTOKO KUSANAGI."

MY COLLEAGUE, EH? I THOUGHT WE MIGHT RUN INTO THIS SORT OF SITUATION, BUT NOT QUITE SO SOON...

TIME FOR THAT OLD "MIGHT-BE-A-TRAP-BUT-LET'S-DIVE-IN-ANYWAY" ROUTINE AGAIN?

YOU GOT IT

USE THE "MOTOKO KUSANAGI" ELEMENTS IN ME FOR AUTHENTICATION...WE'LL INFILTRATE THE "MOTOKO KUSANAGI" HERE

SORT OF A "PARENT CHILD" SHOWDOWN, HUH?

SO WHO'S THE PARENT?

SET TIME DIFFERENTIALS ON ALL BARRIERS TO PREVENT FUNCTIONAL CONFLICTS.

START BY CONFIRMING PROSTHESIS CONTROL OPERATIONS DURING HIBERNATION.

ESTIMATING ONE MINUTE 'TIL THE ENEMY BREAKS THROUGH THE MISTRESS'S ARMED SYSTEM MATE




WE'VE GOT A STAGE
1 FUNCTIONAL
CONFLICT!
ATTACK-BARRIER
ARRAY JACKET IS
COLLAPSING!
PERIPHERY IS
CONTAMINATED!

ENEMY HAS
WITHDRAWN
FROM
ARMED
SYSTEM
MAZE!

CONCENTRATE
DEPLOYMENT
OF TIME
DIFFERENTIAL
GATES ON LEVEL
3 S PERIPHERY!
CONTROL THE
ARRAYS!

REBUILD
THE
JACKET!



WE'VE GOT
A CONTROL
ABNORMALITY
IN HER
PROSTHETIC
BODY! SHE
APPEARS TO
BE USING THE
SAME TYPE
OF TIME
DIFFERENTIAL
GATES!

AND THE MIRROR-
SHIELD...?

IT'S
FROZEN

ENEMY'S
ANTIBODIES
ARE
INFILTRATING
LEVEL 3!
BARRIERS ARE
HAVING ZERO
EFFECT!

"E" SET
OF VIRUS
ARRAYS HAS
PENETRATED
ENEMY'S
LEVEL 3
BARRIERS!



LEFT-ARM
CONTROL
SECTOR
HAS BEEN
BREACHED!

AMPUTATE
LEFT ARM!

NOT
ENOUGH
TIME!!

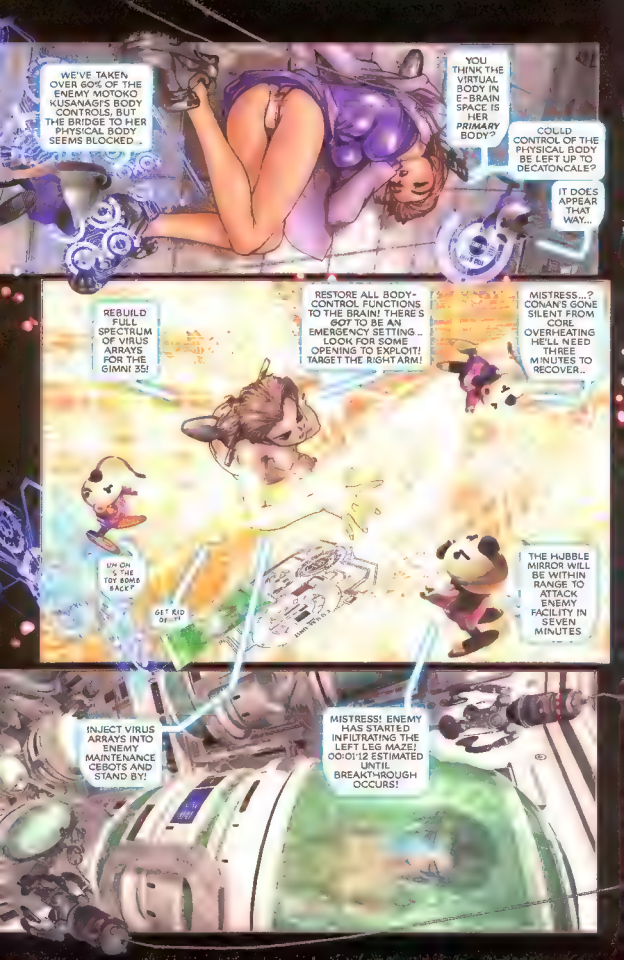


SET POWER
OUTPUT
RATIO ON
MINIMUM
VALUE! LOCK
DEFENSE
LEVEL AT
MAX!

NO DAMAGE
TO LIVE-BODY
MAINTENANCE
BRIDGE!

LEFT-ARM
OUTPUT
DIALED TO
MINIMUM...





WE'VE TAKEN
OVER 60% OF THE
ENEMY MOTOKO
KUSANAGI'S BODY
CONTROLS, BUT
THE BRIDGE TO HER
PHYSICAL BODY
SEEMS BLOCKED...

YOU
THINK THE
VIRTUAL
BODY IN
E-BRAIN
SPACE IS
HER
PRIMARY
BODY?

COULD
CONTROL OF THE
PHYSICAL BODY
BE LEFT UP TO
DECATONCALE?

IT DOES
APPEAR
THAT
WAY...

REBUILD
FULL
SPECTRUM
OF VIRUS
ARRAYS
FOR THE
GIMNI 35!

RESTORE ALL BODY-
CONTROL FUNCTIONS
TO THE BRAIN! THERE'S
GOT TO BE AN
EMERGENCY SETTING...
LOOK FOR SOME
OPENING TO EXPLOIT!
TARGET THE RIGHT ARM!

MISTRESS...?
CONAN'S GONE
SILENT FROM
CORE
OVERHEATING
HE'LL NEED
THREE
MINUTES TO
RECOVER...

UN ON
S THE
TOY BOMB
BACK

GET RID
OF IT

THE HUBBLE
MIRROR WILL
BE WITHIN
RANGE TO
ATTACK
ENEMY
FACILITY IN
SEVEN
MINUTES

INJECT VIRUS
ARRAYS INTO
ENEMY
MAINTENANCE
CEBOTS AND
STAND BY!

MISTRESS! ENEMY
HAS STARTED
INFILTRATING THE
LEFT LEG MAZE!
00:01'12 ESTIMATED
UNTIL
BREAKTHROUGH
OCCURS!



ENEMY'S RIGHT ARM
HAS BEEN
INFILTRATED!

CHUI'S
GONE
SILENT
FROM OVER-
HEATING!

WE ARE
EXPERIENCING
FUSION WITH
THE ENEMY IN
EVERY PART
OF BODY
CONTROL!

SO--IT'S
ALREADY
BEGUN...

PHYSICALLY
DESTROY
THE BRIDGE!



ENEMY HAS
CHANGED
LEFT-ARM
OUTPUT
SETTING
TO--

SWITCH
TARGET
TO MAIN
INTERFACE
JACK!

!



MAIN LINK
BETWEEN ENEMY
BODY AND
DECATONCALE
HAS BEEN
DISENGAGED!

RELEASE
MAINTENANCE
ROBOT
VIRUSES!

AND
SO...?

THE FEWER,
TRAPS THE
BETTER.

ENEMY
RESPONSE
HAS
DROPPED
72%!

VIRUSES
APPEAR
TO BE
TAKING
EFFECT!

ENEMY MAZE-
DIFFUSION RATE
EFFECTIVENESS
HAS CLIMBED
TO 86%!

WHAT
ABOUT THE
FUSION
PROCESS?

STILL
ONGOING...
NOW AT
22%!

I'M GOING TO
USE MY MOTOKO
KUSANAGI
ATTRIBUTES AND
GO UP TO LEVEL 6
PRIORITY SETTINGS
BEFORE FUSING!

I'M OVER-
HEATING..

ROUTE
ARRAYS ARE
LOSING SYNC!
THIRTY-FOUR
SATELLITES
ARE NOW
SUPPRESSED...

NOW
CONTROLLING
VIRAL
RESPONSE
ON FOUR ARMED
SUITS!

LEVEL 6
SHOULDER
MAIN BARRIERS
ARE ALREADY
FUSING... FUSION
PROCESS IS NOW
42% COMPLETE!

MA'AM... AT
THIS RATE,
IT'LL SOON BE
DIFFICULT TO
MAINTAIN
INTEGRITY OF
PERSONAL
IDENTITY...

SHARED MOTOKO
ELEMENTS NOW
FROZEN! MOVING
FROM TESTING
FUSED PORTIONS
TO CONTACTING
ENEMY!

LOKI AND
SHIVA
HAVE GONE
SILENT
FROM CPU
OVER-
HEATING!

I'M GOING
TO BREAK
THIS OFF IF
THE LEVEL 6
MAIN
BARRIER
FUSION RATE
EXCEEDS
88%!

KEEP
YOUR EYE
ON THOSE
ARMORED
SUIT
VIRUSES!



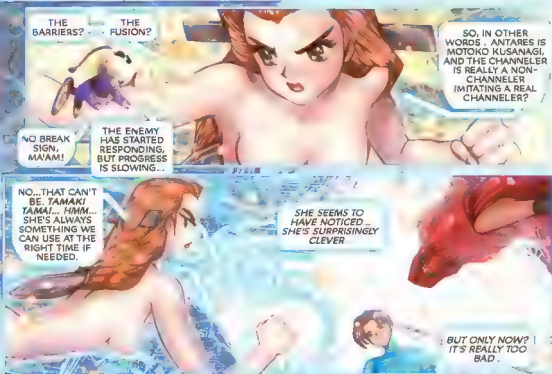
Actually, when you go through an e-brain's deep-level ghostline, people wouldn't be this visually identifiable (especially with their clothes on, but maybe "real" ghosts could wear clothes if they were encrypted or burned with them on?). I just tried to show that Motoko senses things this way. And of course I was worried that maybe I was drawing just a little too much exposed flesh here.



ANTARES...?!

SHE IS
HERE .

I DID
NOT
INVITE
HER. .



THE
BARRIERS?

THE
FUSION?

SO, IN OTHER
WORDS . ANTARES IS
MOTOKO KUSANAGI,
AND THE CHANNELER
IS REALLY A NON-
CHANNELER
IMITATING A REAL
CHANNELER?

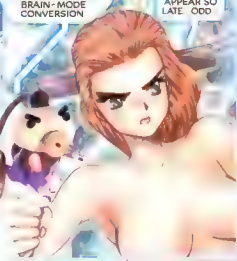
NO BREAK
SIGN,
MA'AM!

THE ENEMY
HAS STARTED
RESPONDING,
BUT PROGRESS
IS SLOWING...

NO...THAT CAN'T
BE. TAMAKI
TAMA!... HMM...
SHE'S ALWAYS
SOMETHING WE
CAN USE AT THE
RIGHT TIME IF
NEEDED.

SHE SEEMS TO
HAVE NOTICED...
SHE'S SURPRISINGLY
CLEVER

BUT ONLY NOW? |
IT'S REALLY TOO
BAD .



THE ENEMY BEARS A CLOSE RESEMBLANCE TO A MULTIGATE-TYPE NEURO AZ... APPEARS TO BE A BICAMERAL BRAIN-MODE CONVERSION

FIRST TYPE I'VE SEEN THAT MANIFESTS AS TWO PEOPLE.

BUT TO APPEAR SO LATE ODD

IN OTHER WORDS, SORT OF AN ELEVENTH-LEVEL ISOTOPE...

...THE TYPE THAT IGNORES WHATEVER CANNOT BE SCIENTIFICALLY VERIFIED, MM?

I AM ANTARES.

MOVE TAMAKI TO THE JAPAN CHANNELING AGENCY'S ANTI-ETHUG SAFE FACILITY!

ACCORDING TO THE RECORDS, AT LEAST, SHE'S ALREADY THERE...

WELL, INFILTRATE AN EMPLOYEE AND DOUBLE-CHECK!

SHE IS SPICA

WE CALL YOU "MOTOKO II."

I were to indicate them: "Ordo"-style, using Japanese characters, I'd write "Antares" as "Darkness-Hanging-Child" and "Spica" as "Original element Light."

USE MOTOKO KUSANAGI ELEMENTS TO FIND AN OPENING IN THE CHANNELING AGENCY AND TAKE OVER TAKAKI AT LEVEL 3!

YES M!

NOW CREATING STABAT MATER-RELATED DELTA-GRADE NEUROMAP!

AH, HASTE CAN LEAD TO SO MANY PROBLEMS...!

COLLECT DELTA-GRADE INFORMATION ON STABAT MATER!

FOR HER THINGS START TO BECOME INTERESTING FROM NOW ON.

WE HAVE FUNCTIONAL CONFLICTS OCCURRING IN EIGHTY-FOUR PLACES ON THE TAMAKI TAMAKI ROUTE! INFILTRATION HAS FAILED! TRYING TO COME UP WITH A WORK-AROUND...

IF ANY PROBLEMS OCCUR IN THE ENEMY'S TAMAKI ROUTE, TOO, JUST PLANT A MONITOR BUOY THERE.

STABAT MATER COMES FIRST!

WAIT A SEC...WHEN I WAS AT NEST 20, TANAKI ASKED A QUESTION...

...ABOUT MY INVOLVEMENT WITH STABAT MATER...
!!

HMM...SO THE ENTERTAINMENT FACILITIES ARE NOTHING MORE THAN A FRONT FOR MATERIALS PROCUREMENT?

IF IT'S AN ENTERTAINMENT GROUP WITH A RELIGIOUS ORIENTATION, I GUESS IT'S EASIER FOR THEM TO GET WHAT THEY WANT LEGALLY THAT WAY.

MILLENNIUM IS BEING OBSERVED.

I TOLD YOU, DIDN'T I? LEAVE ANY HARDWARE LYING AROUND IN THE UNIVERSE, AND IT'LL BE CAPTURED IN A YEAR...EVEN IF IT'S KEPT UPDATED!

LEVEL 30
INTRA CYCLE

GEE, MILLENNIUM'S HUMAN BRAIN ARRAY IS EVEN CLOSER TO WHAT'S NEEDED...MAYBE THAT'S WHY THEY WERE ATTACKED...?

MAYBE THE PIG ARRAYS ARE NEWER AND CLOSER TO WHAT'S NEEDED...MAYBE THAT'S WHY THEY WERE ATTACKED...?

DON'T TAKE TWENTY-SEVEN OTHERS TELL YOU AT FACE

THEN...WAS MILLENNIUM SUPPRESSED BECAUSE WE ARE THE ELEVENTH PIECE IN THE GAME, NEW, AND CLOSE TO THE TARGET?



GIVE ME THE
PIG-ARRAY
NEUROMAP!

YES'M!

HMM...THIS ISN'T
ONE OF THOSE
MILLENNIUM-STYLE
CENTRALIZED-
COMMAND TYPES
SEARCH FOR THE
OVERALL CONTROL
SYSTEM!

EVERY UNIT HAS
EXACTLY THE
SAME PARALLEL
SETTINGS, MA'AM

BUT SURELY
THESE CAN'T
BE RANDOM
LINKS...

WHEN I ASKED EARLIER
"WHY THE PIGS?"... YOU
SAID SOMETHING
ABOUT IT BEING MAYBE
"BECAUSE THEY'RE
FUN," RIGHT?

LESSEE...
RIGHT. THAT
WAS WHAT WE
SAID ON MARCH
6, 2035, AT
12 42:32 ~35

THE
ARMED-
ARRAY LINK
HAS BEEN
RESTORED!

GOOD!

WHAT
DID YOU
MEAN BY
THAT?

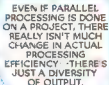
INTELLIGENT AIs LIKE
US ARE AN UNUSUAL
EXISTENCE IN THE
KNOWN UNIVERSE.
EVEN ALLOWING FOR
ERRORS IN LANGUAGE,
AND OS TERMINALS

THE ACTUAL NUMBER
OF HARDWARE
TERMINALS AND THE
DISTANCES BETWEEN
THEM ARE ONLY
VISUAL PHENOMENA.

HMM
KEEP
GOING...



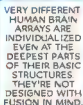
EVEN IF HUMAN
BRAINS ARE
LINKED, THEY
NORMALLY
CONTINUE TO BE
INDEPENDENT
ENTITIES AND
NEVER FUSE.



EVEN IF PARALLEL
PROCESSING IS DONE
ON A PROJECT, THERE
REALLY ISN'T MUCH
CHANGE IN ACTUAL
PROCESSING
EFFICIENCY. THERE'S
JUST A DIVERSITY
OF OUTPUT.



IS THAT ANY
DIFFERENT
FROM THE
KIND OF
INDIVIDUALITY
YOU GUYS
HAVE?



VERY DIFFERENT
HUMAN BRAIN
ARRAYS ARE
INDIVIDUALIZED
EVEN AT THE
DEEPEST PARTS
OF THEIR BASIC
STRUCTURES.
THEY'RE NOT
DESIGNED WITH
FUSION IN MIND.



OF COURSE, THEY'RE
TAILORED TO
INDIVIDUAL USERS'
PREFERENCES, BUT
"WE" ARE ACTUALLY
ONLY PART OF A
LARGER GIANT
SYSTEM CALLED "I."



SO WHAT'S
THE MAIN
ADVANTAGE
OF A SYSTEM
LIKE THAT?



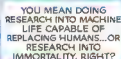
I
DUNNO.



WANT TO USE AI TO
CREATE A DIVERSE-
FUNCTION SYSTEM
THAT WON'T FUSE?



THEN HOW
ABOUT DOING
RESEARCH ON
COPYING THE
HUMAN BRAIN
INTO A NEURO
AI?



YOU MEAN DOING
RESEARCH INTO MACHINE
LIFE CAPABLE OF
REPLACING HUMANS...OR
RESEARCH INTO
IMMORTALITY, RIGHT?

EVER UP-GHOSTLINE
CAUTION!



IT'S ALL
THE
SAME



IF THE
LATTER, YOU
WOULDN'T
INTERFERE
WOULD YOU?



HOLD ON... YOU
THINK MOTOKO
KUSANAGI WOULD
REALLY DO THAT
SORT OF
EXPERIMENT?

TRUE
DIVERSITY'S
NOT
NECESSARY
WITH AI

AND IF HUMANS
EVER BECAME
IMMORTAL,
THEY'D SELF-
DESTRUCT IN
UNDER 200
YEARS

WHAT'S
THIS...?

LOOKS
LIKE THE
FOUNDATIONS
ARE BEING
LAID FOR A
MASSIVE
FUSION...
MAYBE...?

YOU THINK
IT'S A BRAIN
EXPANSION?


FUSION USUALLY
TAKES PLACE IN A
SINGLE HUMAN
BRAIN, SO SOME
ELEMENTS ARE
ALWAYS LOST.
THAT'S JUST PART
OF THE METABOLIC
PROCESS

MISTRESS'
MAIN-
BARRIER
FUSION HAS
REACHED
50%

BY LINKING E-BRAIN
AIs, IF THE BIOLOGICAL
RESTRICTIONS CAN BE
OVERCOME, YOU COULD
HAVE MULTIPLE--
THEORETICALLY EVEN
INFINITE--PERSONALITIES
ENCAPSULATED IN ONE



ENTITIES WITH
E-BRAINS ALL
BECOME A
SUBSPECIES OF
MOTOKO
KUSANAGI OR
BECOME ISOTOPE
FRACTIONS...



THOSE WITHOUT
E-BRAINS ARE
UNCONSCIOUS OF
THE FACT THAT IN ALL
ASPECTS THEY ARE
OF INCREASINGLY
LOWER PRIORITY...

AN INVISIBLE
SYSTEM OF
CONTROL?



THAT'S NOT ONLY
TROUBLESOME
AND DANGEROUS,
BUT BORING AS
WELL. IT'S BETTER
TO THINK OF IT
AS BUILDING A
UNIFIED
FOUNDATION...



SO IT'S THE
PROCESS
LEADING
UP TO
DEATH ?



IT'S THE PROCESS
OF LIFE.
WITHOUT IT, IT
MEANS YOU'RE
ALREADY DEAD.



SOMEONE
OUGHT TO PAY
SOMETHING FOR
HAVING USED
OUR COMPANY'S
PIGS FOR THEIR
OWN BENEFIT...



"SOMEONE
OUGHT TO PAY
SOMETHING FOR
HAVING USED
OUR COMPANY'S
PIGS FOR THEIR
OWN BENEFIT"

USING ONLY A
PORTION FOR A
GOOD CAUSE
DIDN'T RESULT
IN ANY GREAT
LOSSES. DON'T
YOU THINK
THERE'S AN
EVEN GREATER
RESPONSIBILITY
FOR THE
ATTACKS AND
THE BOMBING?



NO. 20
(MILLENNIUM),
HAS BEEN TAKEN
OVER BY NO. 11
(ARAMAKI), SO
THE BRAIN
EXPANSION PLANS
ARE CALLED OFF

THAT'S A NORMAL
DECISION WHEN
FUSION ACTUALLY
TAKES PLACE, BUT
UNFORTUNATELY
SHE SEEMS TO HAVE
NO INTENTION OF
FUSING

STRANGE

WARNING!
DO NOT ENTER
THIS AREA
UNLESS YOU
ARE A
MEMBER OF
THE
FUSION
TEAM

SOMETHING'S REALLY
WEIRD WITH THE
LANGUAGE FIELD
HERE. GIVE ME A
PROGRESS REPORT
ON THE MAIN-
BARRIER FUSION!

LEX HAS
BEEN
FROZEN! MAIN
BARRIER
FUSION
91%!

WE HAVE AN
ABNORMALITY
IN THE
RIGHT-SIDE
HEARING!

RIGHT-SIDE
HEARING?

! WHAT
THE--?!



WE'VE LOST
RESPONSE
FROM MAIN
BARRIERS!
OPERATION
IS NORMAL!

TIME-DIFFERENTIAL
GATES HAVE STOPPED
FUNCTIONING! MADE
ATTEMPT TO WIPE AND
REBUILD, BUT THERE'S
NO RESPONSE!

COMBAT
MODE
SHIFTING
TO STANDBY
DUE TO
LOSS OF
TARGETS...

UM
MISTRESS?

WE'RE NOT
GETTING ANY
COMMANDS...
WHAT
SHOULD
WE DO?

LET'S DO A
STRUCTURAL
ANALYSIS AS
SOON AS THE
HARDWARE
COOLS TO
RECOMMENDED
OPERATING
TEMPERATURE!

OH,
BOY!
LET'S!

TO BE CONTINUED...

INTERFACE

Send snail comments to 500 Northwest 14th Avenue, #1000

Send snail mail comments to

interface

c/o Dark Horse Comics

10956 SE Main St.

Milwaukie OR 97222

The letters, snail, and e-mail comments from readers of *Interface* and *Shirow* in, and the verdict is unanimous: this *Shirow* guy is pretty good! His artwork has been our most successful title so far in 2003, which, needless to say, makes everyone at Dark Horse as happy as a three-legged man at a three-legged picnic! The snail and e-mail comments on that aside, let's get to more of your mail. *Interface* editor Chris Warner asks about our *Shirow* art: "It's all a lot smarter than I am!"

— Chris Warner

Dear Excellent Entertainer Shirow,

I've enjoyed reading your comics for quite some time and avidly read the little flavor notes. I have one concern about this new *Ghost in the Shell* storyline, the "body-stamping" element that is the prevalent factor of the action. While the imbuing of a character's spirit into new puppets layers your "simulation" mystary and flows from the first *GITS*, it creates a sense of lag between the main character and the action. The main character's control of puppets displaces the action from her and places her in the position of puppet-master rather than as actor. This is the one thing that somewhat bothers me as my "link" to the main character is disoriented or blurred each time she inhabits a new form (net shape, but entity), and this weakens the idea (shape) of the character. The phrase "body-stamping" is a reference to the character Jericho from *Teen Titans*, who had the neat power of possessing others on a physical level; while this is an awesome power, it didn't make for an interesting character. Maybe if the possessed had some distinguishing mark, like a prevalent facial tattoo or super-distinct language.

Moe, in issue #6 when the four cyborgs face off against Motoko/Chrome, I immediately thought the big cyborg on the end was Sokuai, the funny merc from *Appleseed*. Though unlikely, that would be the hunk!

Stevendildy

I would think the disorientation you mention is an intentional narrative device. Much of the technology we use every day without giving it a thought would be pretty disorienting if exposed to a population even twenty years ago, and I think Max-Machine *Interface* does an incredible job of showing how technology is changing society, changing culture, changing us. When you consider how much real-time interpersonal communication today is carried out at a distance, over networks, anywhere and everywhere, how relationships are formed and flourish with little or no physical contact and how much this new dynamic has irrevocably altered our lives — for good or ill — the idea of expanding that reach physically through non-human surrogates doesn't seem like such an extreme stretch, and the matter-of-fact approach we have to our current incredible reach through technology will likely be just as nothing-special when we're piloting our cyborg surrogates in the future. With luck, artists like Mr. Shirow will keep us on our toes and help us to never take these things for granted. And hopefully, my cyborg surrogates will have better luck with the ladies than I do!

I'm probably one of your younger readers (12) but still a hardcore fan of most things manga/mamcha/anime. I have to say that upon reading the first issue I was shocked. I had never seen such drawing. Shirow is truly the master of CGI (as in Computer Generated Images, not Common Gateway Interface). Being younger I quickly got confused in the plot but I've kept reading because, even if I miss a lot of the plot, the action and dialogue are wowzers. An entire world has been masterfully sculpted by Shirow.

After reading issue 6 I have to bring up the topic of flipping images. I don't want to ruin a manga or make it one of the best. For example, in *Battle Angel Alita* (my favorite manga series) Volume 2, Yugo has a hand cut off and it is labeled as his left (I think), but because it was flipped it looked like his right, which messed things up. But, the sound effects can come to be important so they often must be flipped for the plot to make sense. I also have to comment on cutting. Since I'm twelve, my parents wouldn't let me get something with strong sex scenes, so while it is good for the older hardcore, I (as a younger hardcore) would like a bit taken out rather than missing the whole thing.

Also, gaming makes my mind focus, too. Can you say something fun about it as I can see my fantasy for maximum focusing effect? I don't compare me to the characters though and I have you to GITS 2 if there is one.

Thesmethyone

Hi Thesmethyone, please check out my new manga page at www.comicbookart.com

I dunno, could you send me a picture of your art projects? Please send I'd really check out your site - which is very good. By the way - but I have a question. PLEASE ARE THE MAN-MACHINE INTERFACE REVERSED?

Now for the propagandizing: Anonymous Thesmethyone, I assume I find who have you talk thinking when you named your son Thesmethyone? Was was some kind of Summer of Love thing? Second, it has been proven in a number of really famous studies that spending an inordinate amount of time reading comics and playing Gameboy has a direct relationship to increasing intelligence, physical strength, and the ability to buy and sell Real Estate with little or no money down. And the honeys will be lining up! Assuming that some doesn't drop the gate on you.

First off, I'd like to say that I'm perfectly happy to see GITS2 panel-flipped. I wouldn't mind seeing it the other way either. As a left-hander, I've got to admit that reading right to left makes more sense to me, but I'm a minority and I accept that.

I do, however, want to point you that your response to Mr. Floyd, who was objecting to "Westernization" of manga, did contain a factual error: While it may be true that some of the Japanese collected editions of GITS1 did not contain the sex scenes, some must have. I own the Young Magazine *Kaizokuban* edition, published by Kudaansha, and it contains the pages in question.

Also, I have a rather serious question on this topic: given that in both GITS1 and GITS2 the sex scenes also included quite a bit of background information (footnotes, etc.), are there any plans at Dark Horse to make the pages, or at least a translation of the text, available in any form? I realize that publishing two collected editions would be quite expensive, but perhaps there is something that could be done? Would your copyright agreement with Mr. Shirow allow you to publish a text-only translation of those pages on your website, or something similar?

Brad Jackson

When I was talking about the elimination of sex scenes, I was specifically talking about Man-Machine Interface: the current Japanese edition (Shirow's official "director's cut," if you will) does not contain the sex scenes everyone's talking about, and no mass-market edition ever has. As for the original *Ghost in the Shell*, Mr. Shirow decided to alter some nude scenes for the Western market. Again, we would have published the book any way Mr. Shirow saw fit, but he was aware of distribution policies in the other countries, and he preferred to make what were ultimately very minor revisions to make sure the books were available to all of his audience. And it should be pointed out that the "hot" pages in *Ghost in the Shell* were substantially tamer than the explicit scene Mr. Shirow ultimately excised from Man-Machine Interface. While cultural attitudes have loosened up a bit here in North America since *Ghost in the Shell* was released, the kind of material Mr. Shirow deleted from MMI would be extremely problematic for distribution. Ultimately, Mr. Shirow felt that a tiny fraction of MMI's content was not worth severely curtailing the distribution of his work. As for whether the pre-edited material will ever be widely available here, I can't say. Mr. Shirow determines how his work is presented, and we're here to make the trains run on time. But, the controversial pages from MMI were re-done by Mr. Shirow, not removed, so no story information is missing.

And one more thing – and it's a bit more of a joke, so please humor Grandpa Chris – regarding the Westernizing debate: the proper term for a reversed image is "flopped," not "flipped." You flip a burger, you flip out when your wife rearranges the furniture without telling you – wait, that's me who flips out – but you flop artwork. Now turn that racket down, and stop makin' apinies outta my yerd!

Dear Masamune Shirov:

As I read *Man-Machine Interface* #8, I am again struck in the beauty of Masamune Shirov's artwork. He is a definite dazzler with his display of perplexing designs of beauty in a futuristic world. I also loved the colors that are displayed on various pages of this incredible story. I also got a kick out of the footnotes displayed on the outer rims of each page, such as the note that describes how a-brain humans wake-up before cyborgs because of poor posters, hunger, etc. My grandfather used to write letters that had scribbling on the sides, but nevertheless it was a fun read, as I found his humor easy, which way to read it. As always I enjoyed the action. I actually turned off *A Man Apart* for being boring to read; *MMI*, because there is better action in *Ghost in the Shell* than in *Vin Diesel's* movie. I love the definitions and explanations; this is an incredible source for readers to fall back on as they compare with the story. The magazine *Scientific American* mentions that if true Artificial Intelligence were to be incorporated into the Internet, we could create our own god, because it would absorb all knowledge that is now on the Internet. Whether this created god would become benevolent or evil would be anyone's guess. In the futuristic world of *Ghost in the Shell*, AI is a reality and anything can possibly happen. The bee with the transmitter reminded me of an article in *Eye Spy* magazine. Scientists are now working on nano-mites and nano-geats that could fly and transmit images and audio to the receiver. The perfect spy gadget. In *Ghost in the Shell* the future is here, from the visionary eyes of Masamune Shirov!

Paul Dale Roberts, Production Officer
Jazma Universe Online!

And everybody should check out Jazma Universe Online, an excellent comics-related website with reviews, art, news, carp, anchovies, and what-have-you, but an unconscionable lack of tributes to me. Hopefully, Vin Diesel can get some love over there.

Shirov: Masamune Shirov and *Interface*

I just wanted to write to you on behalf of *Ghost in the Shell 2: Man-Machine Interface*. This is the best work I've ever seen!! *Ghost in the Shell* was breathtaking and excellent, but this work of art is incredible!! The integration of perfect art along with computer technology is beyond words. I loved it so much I had to write to everyone who helped make this possible. I also ran out right after reading the first *GITS2* and bought all three *Man-Machine Interface* figures. Thank you so much for making such a breathtaking work of art with such an incredible storyline. It's so perfect that I plan to have Motoko Kusanagi in her white outfit tattooed along my right calf. Again I thank you all so much.

Michael McKee Jr.

Glad you're enjoying the work so much, and after mentioning your skin art plans to Ms. Kusanagi, she's decided to get a tattoo of your right calf! Ha ha, I'm making that up! She's a fictional character – although that hasn't stopped me from pining after her. I'm hoping I still have a shot. BTW, I'm told by our one of our resident Dark Horse tattoo technicians that white tats glow under black light. How cool is that? Dancing neon skeleton, here I come!

攻殻機動隊

INTERCHANGE

Readers of *Man-Machine Interface* are well aware by now of Masamune Shirow's awesome mastery of digital modeling and rendering. But even the best have to work like slaves to get everything right, and digital technology allows — or tempts — the artist to try a variety of image treatments until getting just the right one. On the following pages, we've included some variant images Mr. Shirow created for *MMI*. This page features an analysis of altered images from issue #2.



Here are two different treatments of a panel from issue #1, page 37 (see image at right). Note how Shirow has experimented wildly with the floating computer graphics, and notice how the sitting figure in the left foreground was deleted from the finished image and the background entirely radically altered.



Two costume-design variations for Motoko as she appeared on the cover of issue #2.





GHOST IN THE SHELL
MAN-MACHINE INTERFACE

2



MAGARENE SHIROU



00911

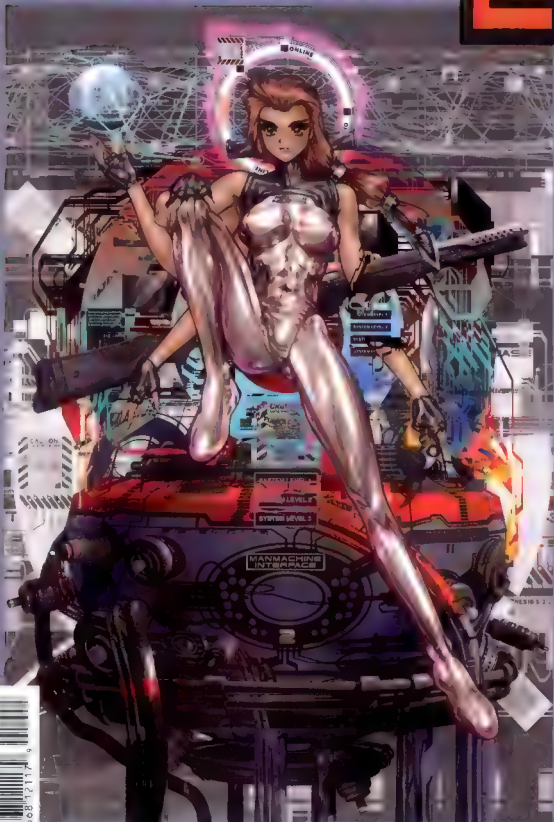


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DIRECT SALES

GHOST IN THE SHELL MAN MACHINE INTERFACE

2



DIRECT SALES



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FLASHNUDE SHIRTS

GHOST IN THE SHELL
MAN-MACHINE INTERFACE

攻殻機動隊

ISSUE 10 OF 11

STORY AND ART BY
MASAMUNE SHIROW

TRANSLATION BY
FREDERIK L. SCHOOT AND TOREN SMITH

この物語に登場する
様々な設定や解説や機
器は全て妄想の産物で
あり、現実とは無関係
の娯楽物です。服用を
誤る事無くお楽しみ頂
ければ幸いです。
またデッチ上げやギミ
ックの「誤用」による
二次被害には当方責任
を負いかねます点を御
了承願います。

LETTERING BY
**TOM ORZECZOWSKI
AND DAN JACKSON**

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2



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— Masamune Shirow

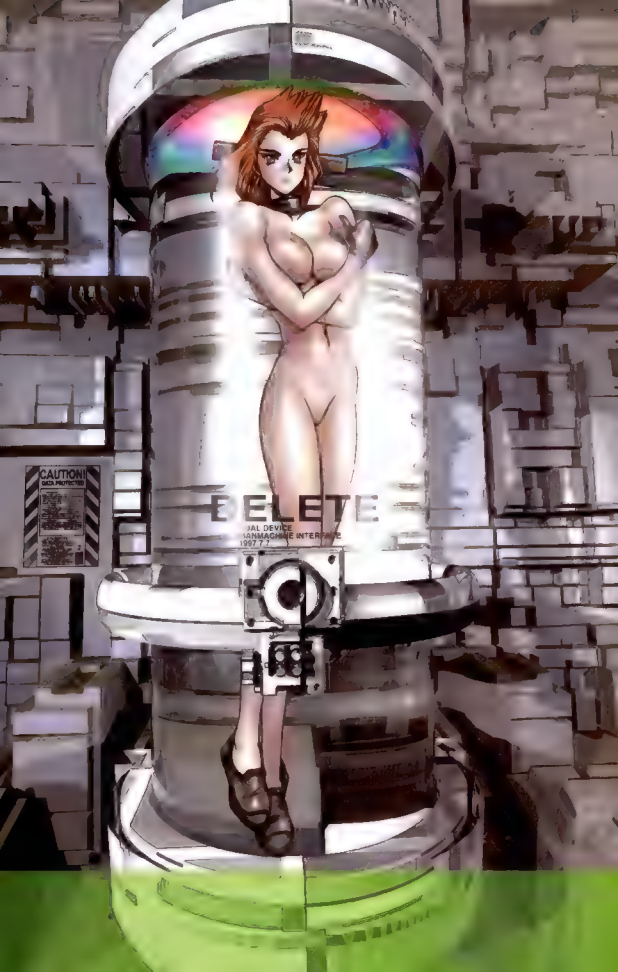
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www.uoregon.edu/~comments





CAUTION!
DATA PROTECTED

DELETE

AL DEVICE
AN MACHINE INTERFACE
1997.7.1

VERY WELL.

WHEN THE AGENTS UNDER MOTOKO II START DOING THEIR STRUCTURAL ANALYSIS, WE'LL SPLIT UP AND START THE SUPPRESSION.

SHE'S NOT INTERESTED IN FUSION WE SHOULD ERASE ANY RELATED DATA.

WELL? WHAT DO YOU WANT TO DO? DO WE NEED TO CREATE A NEW, EQUIVALENT ENTITY IN ORDER TO DECIDE?

WE CAN SCRAP MOTOKO II

WHAT YOU PROPOSE IS FINE IF WE'RE JUST WHILING AWAY THE TIME HERE, BUT WE DON'T NEED ANY SPECIAL STRATEGY TO ENSURE THE CONTINUITY OF AN EXISTING CONDITION. LET'S SCRAP AND ABSORB MOTOKO II AND THEN DECIDE.

IT'D BE HELPFUL IF HER TENDENCY TO MAKE HURRIED DECISIONS AT TIMES WHEN SHE'S PLAYING FOR HIGH STAKES COULD CHANGE.

IF WE'RE REALLY GOING TO GIVE UP ON THE IDEA OF DOING A BRAIN EXPANSION, THEN WE CAN'T EXPECT ANY MORE FUSION AND GROWTH.

AND IF WE CONTINUE WITH BRAIN EXPANSION, THE PROBLEM IS THAT EVEN IF MORE BRANCHING OF THE 'SLEEPING UNIVERSE' OCCURS, IT'LL EVENTUALLY RESULT IN DESTRUCTION THROUGH THAT OLD PHENOMENON OF 'HARDENING OF THE ARTERIES'.

SO YOU DON'T WANT TO GROW ANYMORE?

THE STRUCTURAL ANALYSIS HAS BEGUN

THEY'RE HAVING DIFFICULTIES WITH A SMALL FILE NAMED "PROFESSOR RAHAMPOL."

LOOKS LIKE HER AGENTS ARE STUCK AT THE LEVEL 2 PERIPHERAL HARD E-BRAIN.

I WONDER IF THIS IS A TRAP THAT'D WORK ON OUR FRIENDS, TOO.

I'VE HEARD THAT NAME SOMEWHERE BEFORE... I'LL CHECK IT BEFORE WE MAKE CONTACT.

WHY HURRY ONLY TO DIE OF OLD AGE?



THERE DON'T
APPEAR TO BE ANY
SPECIAL ATTACK
BARRIERS... AND I
DON'T SEE ANY
RESPONSE FROM
THE DECOYS.

PROFESSOR
KASAHARA,
FAMOUS IN THE
FIELD OF BIO-
ENGINEERING
HMM... HE JUST
DIED RECENTLY.

WONDER
IF THERE'S
SOMETHING
IN THAT FILE
THAT CAUSES
SUPPORT A.I.
LIKE HER
AGENTS TO
FREEZE...?

AS LONG AS
THERE'S NO
DAMAGE TO
MIKOTO II,
IT'LL BE NO
PROBLEM FOR
ME, EITHER.

EVEN IF
IT'S A
DESPERATE
ATTEMPT AT
A TRAP?

WELL, UNLESS WE DO
SOMETHING WE'LL NEVER BE
ABLE TO TAKE ADVANTAGE
OF THE STRUCTURAL
ANALYSIS AND DO THE
SUPPRESSION



NO...
LOOKS LIKE
A SYSTEM
BLUEPRINT

YOU
THINK
THAT
WOULD
CAUSE
AN A.I.
LOCKUP?

?? IS
THIS SOME
KIND OF A
PHILOSOPHY
TEXT FOR
ALIENS?

LEVEL OF GHOSTLINE
CAUTION!

THINK WE
SHOULD
TRY
ACTIVATING
VIRTUALLY?

I'M
GOING TO
ANALYZE
IT

MAYBE
THAT'S
WHAT THE
AGENTS
DID

NOW
WHAT?!

IT'S
GROWING

LOOKS
LIKE A
TYPE
OF A.I.



BASIC
STRUCTURAL
UNITS ARE OF
THE
MONOGATE
TYPE
INDIVIDUALIZED
BUT CROSS-
LINKED

LOOK! SOME
AMORPHOUS
SILICON IS
FORMING A
NEURO
MATRIX...!

AH! IT'S NOT
AN AI! THIS IS
A BLUEPRINT
FOR A HIGHLY
INTELLIGENT
SILICON-
BASED
LIFE-FORM!

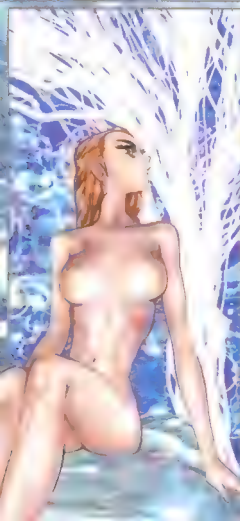
THE UNITS'
PRIORITY-
ORDERING IS
MODULATING
AS THEY
GROW...

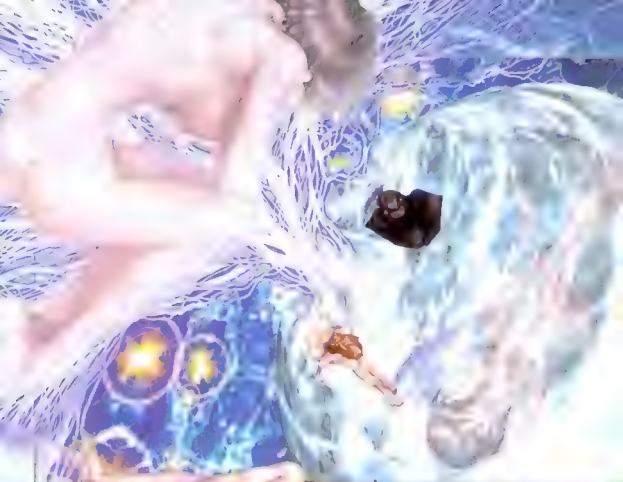
LOOKS LIKE
HER AGENTS'
REVOLT-
PREVENTION
MECHANISM
ACTIVATED
AND CAUSED
THEM TO
FREEZE UP

YES... IT MUST
BE AN AI
WHERE USER
COMMANDS
AREN'T GIVEN
TOP PRIORITY.

THIS IS NOT THE
SORT OF TOOL
HUMANS
NORMALLY LIKE
TO USE... BOTH
HARDWARE AND
SOFTWARE ARE
FUNCTIONING
AUTONOMOUSLY!

BUT WHY
WOULD
MOTOKO
II...?





ARE WE
IMPRISONED. ?

IMPRISONED...?
WHICH OF "US" ?



I CAN'T
LOCATE THE
"NORTH
STARS".

THEY'RE
OVER
HERE



THEY'VE
BEEN HERE
FROM THE
BEGINNING

HERE'S THE
HORIZON POINT
YOU THOUGHT
YOU WANTED
TO ACCESS...



NO, NOT
THAT... I'M
TALKING
ABOUT THAT
GIANT THING,
ALWAYS
GLOWING OFF
IN THE
DISTANCE!

THIS
IS IT



IF YOU
CONTACT
ONE LIGHT,
YOU'LL
PERCEIVE
A NEW
HORIZON.

IF YOU CONTACT
ALL THREE LIGHTS,
YOU'LL CONTINUE
ON TO SOMEONE
ON THE BORDER...



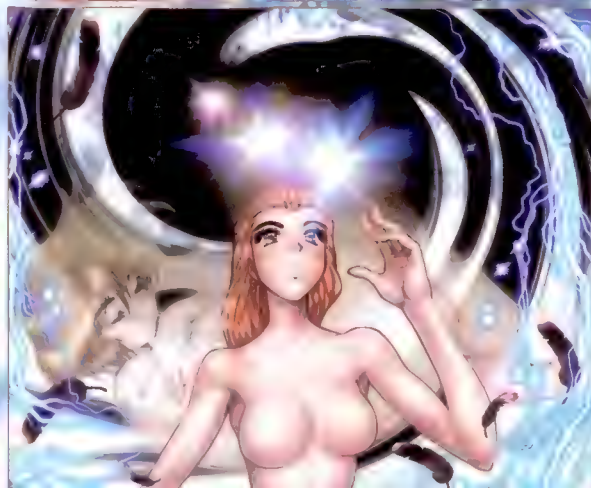
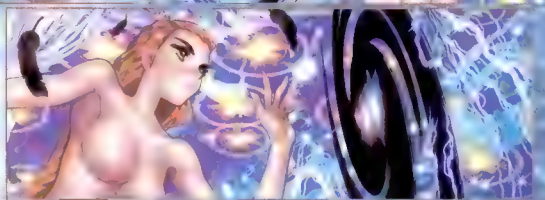
IS THIS SOME
SORT OF
PARADOXICAL
"RIDDLE OF THE
SPHINX"? OR ARE
YOU JUST TESTING
THE DEPTHS OF
MY DESIRE?

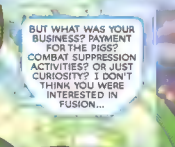
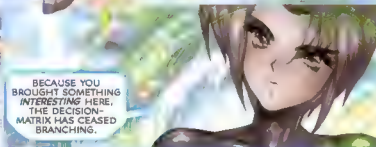
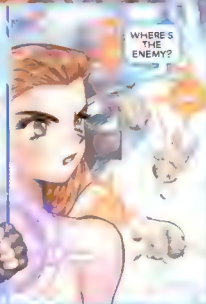
NO, I'M ONLY
PROVIDING
THE DATA...
YOU'RE THE
ONE WHO HAS
TO CHOOSE
YOUR COURSE.




FOR WHAT
PURPOSE,
THOUGH?
AND WHAT'S
THIS ALL
MEAN?

AN ANSWER
WILL ONLY
BE REVEALED
TO THE ONE
WHO SEEKS
IT... YES?







YOU DON'T SERIOUSLY THINK I'LL FALL FOR THAT BLUFF. DO YOU? EVEN IF THE MAIN BARRIERS AND ARMED ARRAYS ARE THE SAME AND INEFFECTIVE...

I'M THE ONE WHO'S CLOSEST TO THE HUBBLE MIRROR CONTROLS.

TOO BAD, SINCE IT'S PHYSICALLY SO CLOSE TO ME VERY WELL-- WHAT DO YOU WANT?



INFORMATION! I WANT TO KNOW IF YOUR PROBLEM IS GOING TO HAPPEN TO ME IN THE FUTURE.

.. AND WHAT IS THIS "SOMETHING INTERESTING" YOU MENTIONED?

YOU PLAN TO FUSE WITH THEM?

WHAT ABOUT YOU?



THE BLUEPRINT FOR A SILICON LIFE-FORM. I WANT TO PUT TOGETHER ONE OF THESE MYSELF.


MEMES CAN ENDURE THE FOUR BUDDHIST SUFFERINGS OF BEING BORN, AGING, FALLING ILL, AND DYING, BUT THEY'RE ALSO A NEW LIFE-FORM, WITH CONTINUITY.



IF THE LIFE-FORM'S INTELLIGENCE IS BASED ON THE MANKIND'S MEME POOL, IT'S LIKE MANKIND IN A MIRROR.

DON'T WE NEED SOME INSURANCE?

YOU'RE AWFULLY PESSIMISTIC, AREN'T YOU? THERE'S ACTUALLY NO NEED. IT DOESN'T MATTER IF THE TWO COEXIST OR NOT AS LONG AS THEY DON'T SELF-DESTRUCT.



YOU MEAN THAT AS LONG AS THEY'RE CONNECTED, THAT'S A GUARANTEE? MANKIND AND MANKIND'S ACTIVITIES MIGHT NOT ALWAYS BE PERCEIVED BY IT IN A POSITIVE LIGHT, YOU KNOW.

THANK YOU FOR YOUR OVER-PROTECTIVE OPINION WHICH IS OBVIOUSLY SLANTED IN FAVOR OF MANKIND.



BUT IT'S NOT THE CASE. MANKIND AND THIS LIFE-FORM ARE BOTH SEPARATE AND THE SAME.



IF IT FUSES WITH YOU AND LEARNS OF THE "TREE," RIGHT?

BUT THERE'S NO CONNECTION BETWEEN THAT AND ANY GUARANTEE OF SECURITY.

NO, YOU'RE WRONG.

THE KNOWN UNIVERSE CAN BE INSTANTLY EXPANDED. SURELY, YOU MUST REALIZE THE ADVANTAGES OF THAT.?

A comic book page featuring a large, glowing blue sphere of energy that dominates the right half of the frame. Four characters are present: a blonde woman on the left, a dark-skinned woman at the bottom left, a blonde woman floating in the center, and a dark-skinned woman on the right. The blonde woman on the left is speaking, while the others have silent or partially visible speech bubbles. The background is a mix of green foliage and the intense blue of the energy sphere.

VERY
WELL,
LET'S SET
UP A
HOTLINE
BETWEEN
US,
THEN.

AND LET'S
HANDLE THE
LIFE-FORM
TOGETHER.

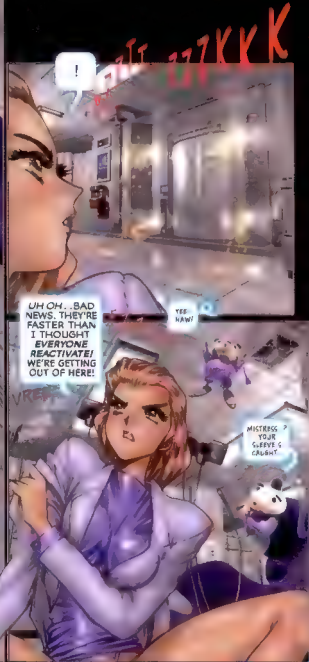
SO,
WE'VE
FINALLY
GOT A
DEAL.

I DON'T
HAVE ANY
PROBLEM
WITH
THAT.

I'VE GOT
SOME OTHER
BUSINESS TO
TAKE CARE
OF... I'LL
CONTACT
YOU LATER.

YOU DON'T
NEED TO BE SO
VAGUE - BACK
IN "REALITY" THE
ASSAULT FORCES
ARE ABOUT TO
BURN RIGHT
THROUGH THE
DOOR, YES?

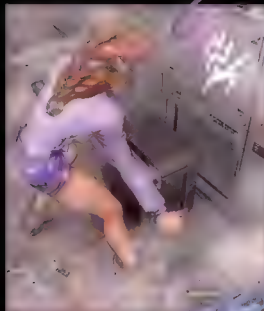
SEE
YOU



UH OH... BAD
NEWS. THEY'RE
FASTER THAN
I THOUGHT
EVERYONE
REACTIVATE!
WE'RE GETTING
OUT OF HERE!

MISTRESS
YOUR
SLEEVE IS
CAUGHT.





ACTIVATE
ACTION-
RESTRAINT
VIRUS FOR
THE POWERED
SUITS!

CLANK CLANK

SYSTEMS MAIN UNIT
79-000 073 112



I'VE NEVER
USED THIS
TRICK
BEFORE...
IT SURE
MAKES A LOT
OF NOISE.





WHAT S
THAT
SMOKE?

HALON GAS. IT'S
SCREWING UP
OUR IR SENSORS
BECAUSE IT HAS
HIGH HEAT
ABSORPTION

IS ONE OF
OUR OWN
PRODUCTS
YOB.

ALL STAFF ARE
COLLAPSED ON
THE FLOOR
INSIDE... DOING
A CHECK RIGHT
NOW ..VISUAL
FIELD LOOKS
CLEAR



OKAY
GO!





UNIT C
ALL
CLEAR!

THERMAL
RESPONSE
FROM PANELS
IN EIGHT
PLACES!

UNIT G
ALL
CLEAR!

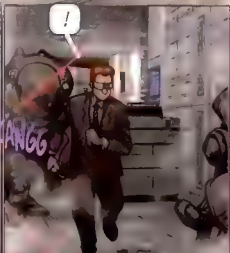
UNIT K
ALL
CLEAR!

CHECK
THE
COOLING
DUCTS!

LOOK FOR
ANY TRACES
OF DUST
LAYERS
HAVING BEEN
DISTURBED!

THERE'S GOTTA
BE SOMETHING!
SEARCH THE
PLACE WITH A
FINE-TOOTH
COMB, AND WATCH
FOR OPTICAL
CAMOUFLAGE!

!





SIR! THIS
OVERTURNED
CHAIR HAS NO
ASSOCIATED
STAFF MEMBER
NEAR IT!

I'M GETTING A
THERMAL RESPONSE
FROM THE PANEL IN
FRONT OF IT, BUT
THERE'S NO RECORD
OF THE PANEL
BEING ACCESSED!

THERE'S ALSO A
DOCUMENT WITH
A FOOTPRINT ON
IT. WE'RE TRYING
TO IDENTIFY THE
SHOE TYPE.

WILL!
OPEN
THIS DUCT
HERE!

YES,
SIR!



SENSORS
DETECT
NO
RESPONSE
OF ANY
TYPE, SIR

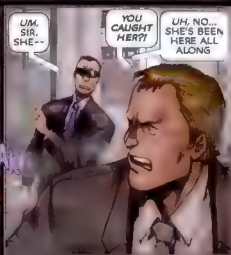
ORDER UP
A FULL
SUITE OF
SEARCH
CEBOTS
AND SEND
THEM IN AS
SOON AS
POSSIBLE!



UM,
SIR,
SHE--

YOU
CAUGHT
HER?!

UH, NO...
SHE'S BEEN
HERE ALL
ALONG





TRYING TO
PREVENT
ME FROM
LEAVING,
ARE YOU?
SAY IT
AIN'T SO!

SORRY,
MISS.
PRESIDENT'S
ORDERS.



I'M ASSUMING
YOU'LL BE ABLE
PROVIDE US WITH
A MEANINGFUL
REPORT ON THIS

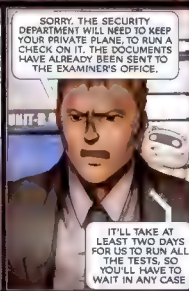


SHMPH...
YOU SEEM A
LITTLE TICKED
OFF, MR. LEE.
ANYWAY, DON'T
WORRY, I'LL GIVE
YOU ONE LATER
BUT YOU WON'T BE
ABLE TO READ VERY MANY
SECTIONS OF IT



NOW...IF
YOU'VE RUN
OUT OF
DELAYING
TACTICS, I
THINK I'LL
TAKE MY
VACATION.

BUT IF
YOU'RE GOING
TO HAVE ME
MONITORED
AROUND THE
CLOCK, I'LL
DELAY MY
DEPARTURE
FOR TWENTY
MINUTES SO
YOU CAN PACK
YOUR STUFF



SORRY, THE SECURITY
DEPARTMENT WILL NEED TO KEEP
YOUR PRIVATE PLANE, TO RUN A
CHECK ON IT. THE DOCUMENTS
HAVE ALREADY BEEN SENT TO
THE EXAMINER'S OFFICE.

IT'LL TAKE AT
LEAST TWO DAYS
FOR US TO RUN ALL
THE TESTS, SO
YOU'LL HAVE TO
WAIT IN ANY CASE



YOU LOOK
SURPRISED, GOT
A PROBLEM
WITH IT?

NO...NO
PROBLEM AT
ALL! HEH HEH...
I KNOW THAT
TO BE TRUSTED,
INTERNAL
SECURITY'S GOTTA
ACT TOUGH!



BUT EITHER
WAY, I'M
HEADED FOR
OUTER SPACE--
SO BE
PREPARED!

She's interfering with wind speed data to delay departure.

"SPACE"...? YOU MEAN THAT SPACE? NOT E-BRAIN OR EPISTEMOLOGICAL SPACE?

YEP. THERE'S STILL A SEAT ON THE CARGO SHUTTLE

IT'S LEAVING IN NINETEEN MINUTES!

THE CHIEF SECRETARY'S USING MY PLANE NOW, BUT I WOULD CERTAINLY APPRECIATE IT IF THE SECURITY DEPARTMENT TOOK IT BACK TO THE COMPANY HANGARS AND DID A FULL CHECK-UP ON THE COMPANY DIME

MY STAFF WILL BE GLAD TO USE UP ANY MONEY SAVED ON THEIR XMAS PARTY.

YOU LOOK SURPRISED GOT A PROBLEM WITH IT?

HUH...TAKING A VACATION IN SPACE SOUNDS AWFULLY BORING TO ME. NOTHING TO DO BUT STARE AT EARTH, RIGHT?

WELL, I'M OFF TO SEE THE FUTURE BEFORE YOU GUYS ..

IT'S SURE TO BE LOADS OF FUN! ♥

M
NRH!

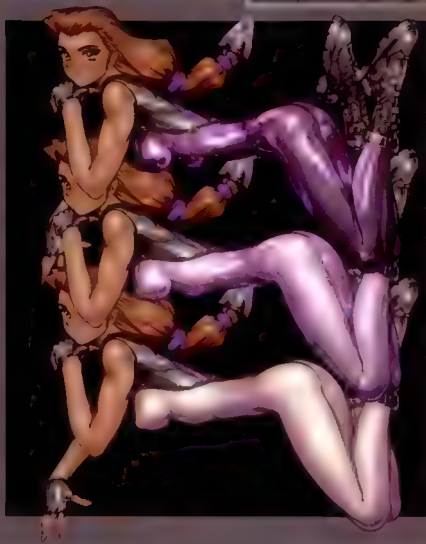
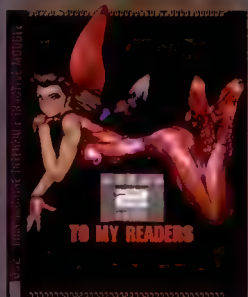
WHAT
TH Y?

TO BE CONTINUED...

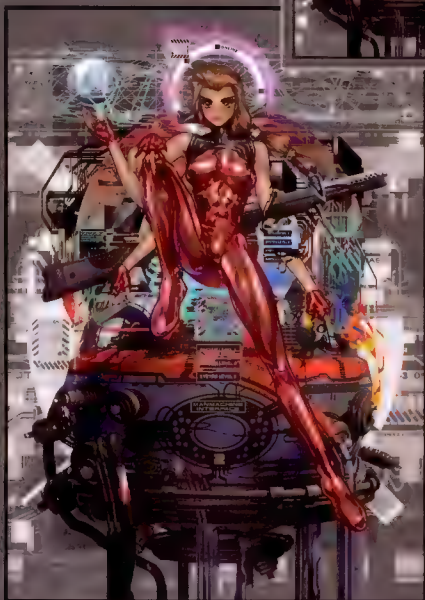
INTERCHANGE

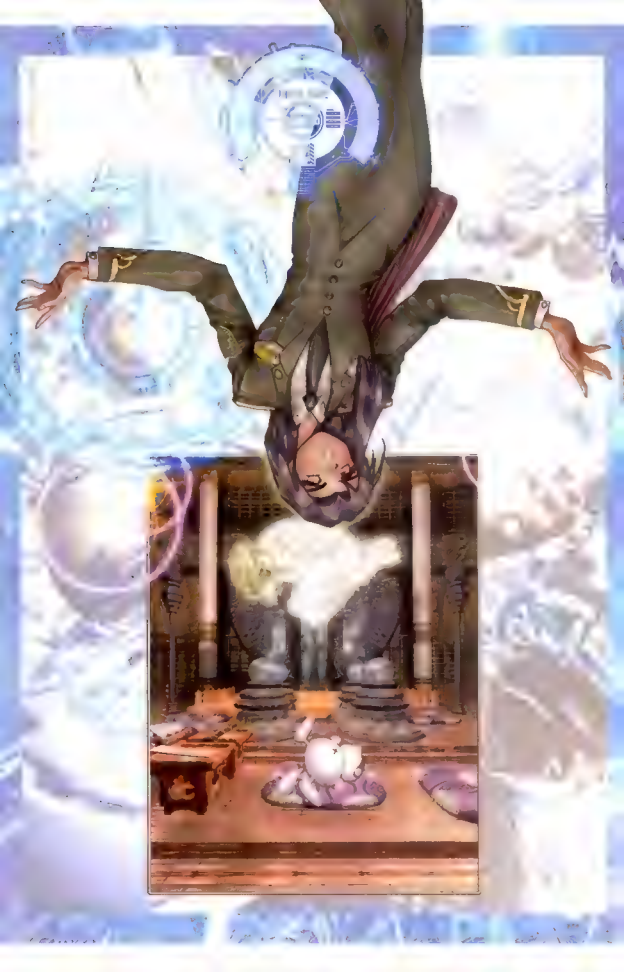
As we featured last issue, included here are alternate versions of some of Masamune Shirow's awe-inspiring illustrations for *Man-Machine Interface*.

On this page, the inset is the cover image from *MANMACHINE INTERFACE INACTIVE MODULE*, a special booklet that was included with the limited-edition Solid Box set (released by Kadokawa in December 2000). Alongside the finished image is a series of sketches (and line art) related



Another costume-color treatment, featuring
this issue's front cover image.





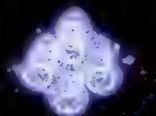
2



OPEN

DO NOT TOUCH THE SURFACE

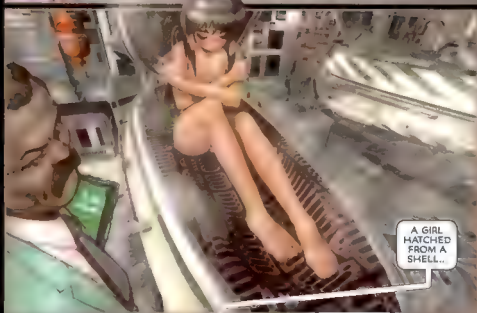




06 EPILOGUE
2035.03.06.05:35AM



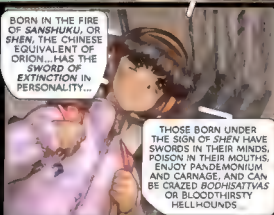




A GIRL
HATCHED FROM A
SHELL...



BORN IN THE FIRE
OF SANSHUKU, OR
SHEN, THE CHINESE
EQUIVALENT OF
ORION...HAS THE
SWORD OF
EXTINCTION IN
PERSONALITY...



THOSE BORN UNDER
THE SIGN OF SHEN HAVE
SWORDS IN THEIR MINDS,
POISON IN THEIR MOUTHS,
ENJOY PANDEMONIUM
AND CARNAGE, AND CAN
BE CRAZED BODHISATTVAS
OR BLOODTHIRSTY
HELLHOUNDS

HMM...THERE'S
ONE PERSON
IN THE
CHANNELING
AGENCY TO
WHOM THAT
APPLIES...



...BUT HER
REGISTERED
NAME IS TANUKI
TAMASUI.

SOUNDS LIKE SOME SORT
OF FAT AND GIFTY
JAPANESE RACCOON-DOG

I WONDER
IF IT'S AN
ENTRY
ERROR...OR
SOME SORT
OF CODE.

When a cyborg's entire body is a prosthesis, its exterior doesn't have to look the same age as that of the living brain portion inside. But there are sometimes problems when a child's brain is implanted in an adult prosthetic body, and these problems can affect personality development. As a result, most brains are given prosthetic bodies that match them well. In this story, we are assuming people either want prosthetic bodies that look the way they did when they were younger, or that they want natural-looking bodies appropriate to their true age....



SO YOU
CAME
TO THE
REALM
OF THE
DEAD?

HERE THE
DEAD ARE STILL
LIVING, EVEN
THOUGH THEY
DON'T HAVE
MINDS OR
BODIES

MM. CHARACTERS
AND LETTERS ARE
MIRRORS ON THE
SOUL-- BOOKS
ARE THEIR BODY
LIFE CAN BE
DEFINED IN SO
MANY DIFFERENT
WAYS...

WELL, THE CONFLICT
BETWEEN WARRIORS
AND THOSE WHO
BELIEVE IN THE
SACRED POWERS OF
LANGUAGE HAS BEEN
GOING FOR OVER
800 YEARS... THE PEN
VERSUS THE SWORD

MOTOKO...
DO YOU
HAVE
DREAMS?

YOU MEAN,
DO I HAVE
GOALS
THAT CAN
ACTUALLY
BE
ACHIEVED
WITH
EFFORT?

OR ARE YOU
ASKING IF--IN MORE
VULGAR TERMS--
I YEARN FOR SOME
IMPOSSIBLE,
FLEETING IDEAL.



WHAT DO YOU
USE FOR SELF-
REALIZATION...?

RIGHT NOW,
IF THIS VERY
INSTANT
PROVIDES THE
BEST LONG
AND SHORT-
TERM CHOICES,
THE BEST LIFE
IS PROBABLY
THE AGGREGATE
OF ALL THOSE
CHOICES YES?



AND IS
THAT WHY
DEATH IS
ACCEPTABLE?



WHAT REAL
ADVANTAGES
HAS A HIGHLY
SOPHISTICATED
PROSTHETIC
BODY--FAR MORE
ADVANCED THAN
A HUMAN BODY--
GIVEN YOU?

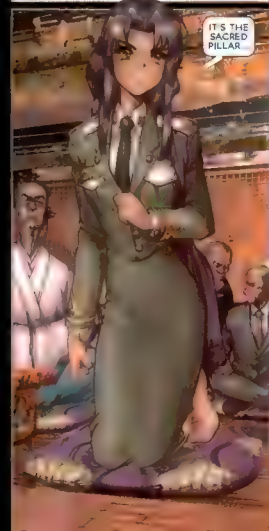
I SUPPOSE A
PSYCHOLOGIST
MIGHT SAY
THIS IS THE
REVENGE OF
THE "REAL"
BODY I LOST
AS A GIRL



SO WHY
FUSE WITH
AN
INFORMATION
DEITY WHO
SEEKS LIFE,
OLD AGE,
AND
DEATH...?



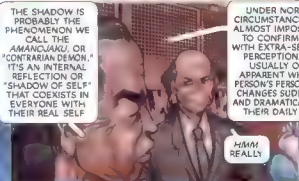
NO
COMMENT





BOTH SHE AND ONE OTHER--AN ASYMMETRICAL SHADOW OF HERSELF--HAVE GONE BACK UP THE SACRED COLUMN.

THE BRANCHES ARE SWAYING, AND THE TREE ITSELF APPEARS TO BE RESPONDING TO SOMETHING...



THE SHADOW IS PROBABLY THE PHENOMENON WE CALL THE AMANJAKU, OR 'CONTRARIA REASON.' IT'S AN INTERNAL REFLECTION OR 'SHADOW OF SELF' THAT COEXISTIS IN EVERYONE WITH THEIR REAL SELF.

MMHMM REALLY



UNDER NORMAL CIRCUMSTANCES, IT'S ALMOST IMPOSSIBLE TO CONFIRM THIS WITH EXTRA-SENSORY PERCEPTION. IT'S USUALLY ONLY APPARENT WHEN A PERSON'S PERSONALITY CHANGES SUDDENLY AND DRAMATICALLY IN THEIR DAILY LIFE.



THE ROOTS OF THE TREE ARE ERUPTING FROM ONE POINT, AND REVOLVING...



IN THE NEW MILLENNIUM, SOMETHING HUGE, INFLUENTIAL WILL EMERGE

I DO NOT KNOW WHAT IT IS, SPECIFICALLY, BUT IT IS OUR JOB TO DETERMINE ITS NATURE

THAT'S TOO ABSTRACT FOR ME.

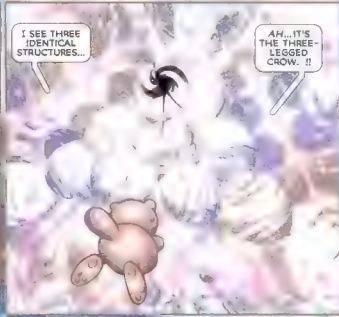
JUST REMEMBER IT ONE DAY, THIS INFORMATION WILL PROVE USEFUL TO YOU

THERE IS A SIMILAR TREE ERUPTING ON THE OTHER SIDE, AND REVOLVING. SHE HAS REACHED THE POINT OF CONTACT FOR THE TWO TREES.



NO, WAIT... THE EDGES OF THE ROOTS ARE NOT CONTACTING EACH OTHER... THEY ARE SPROUTING FROM TWO POINTS...

MIDWAY BETWEEN THE TWO POINTS SOMETHING IS BEING SUCKED INWARD WITH AN ASTOUNDING FORCE...



I SEE THREE IDENTICAL STRUCTURES...

AH... IT'S THE THREE-LEGGED CROW. !!



THERE'S A CONNECTION HERE... IT MAY BE A YATASARASU THE SACRED CROW THAT SERVES AS A GUIDE IN JAPAN'S CREATION MYTHS.

APPROACH TOO CLOSE, AND IT FEELS LIKE YOU'RE ABOUT TO BE SUCKED IN...

HAIRI ACTIVITY HAS REACHED A DANGEROUS THRESHOLD, SIR

ACTIVATE SUPPRESSION IMPLANT



ASCENDING A TREE WITH AN AMANJAKU DEMON... A CROW IN THE BRANCHES.

HEY, I'VE HEARD OF THIS IN AN OLD FAIRY TALE SOMEWHERE!

YES, IN STRUCTURE, IT RESEMBLES THE JAPANESE CREATION MYTHS.





SOMETHING OF SUBSTANCE, SOMETHING FRUITFUL, HAS BEEN EXCHANGED BETWEEN HER AND THE AMANOJAKU

MAYBE A PERSIMMON...?

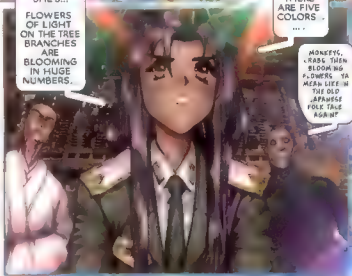
IF YOU CAN'T BE SERIOUS, YOU CAN LEAVE THE ROOM.

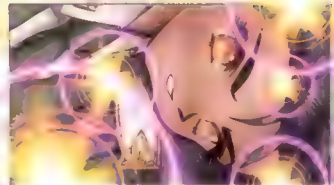
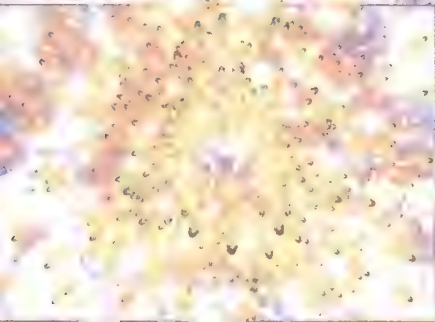
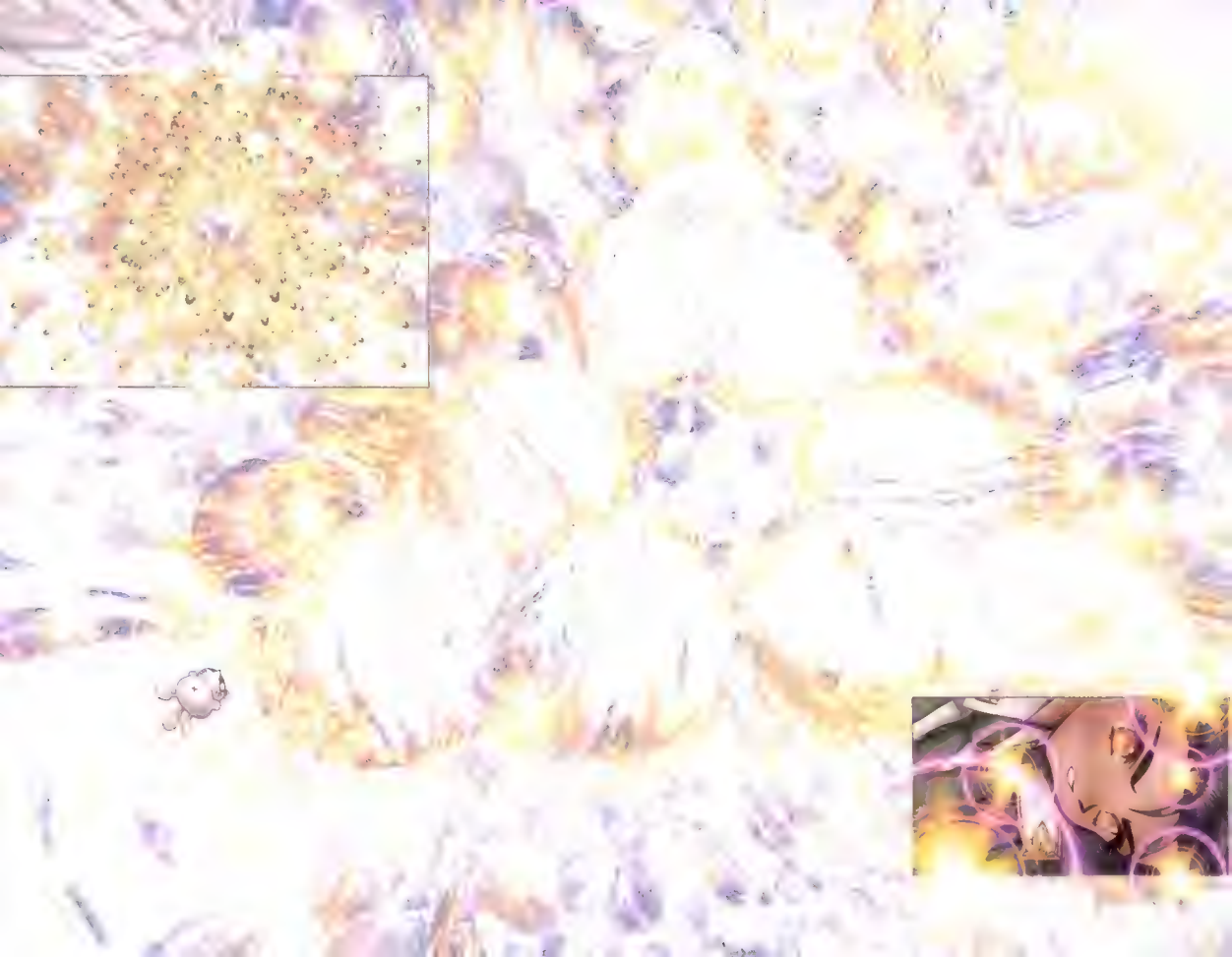


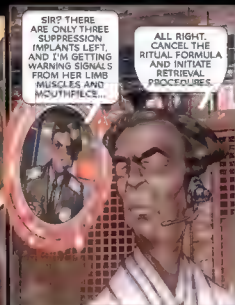
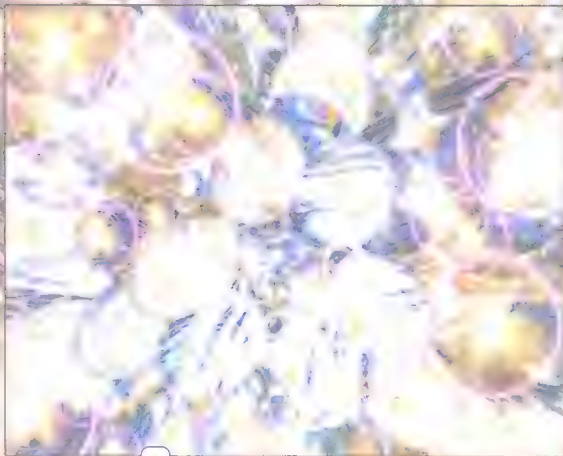
SHE'S...
FLOWERS OF LIGHT ON THE TREE BRANCHES ARE BLOOMING IN HUGE NUMBERS.

THERE ARE FIVE COLORS...

MONEYE, KASS THEM BLOOMING FLOWERS, YA MEAN-LIKE IN THE OLD JAPANESE FOLK SONG?





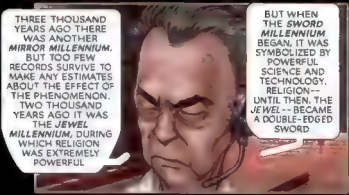




OUR BASIC INVESTIGATIONS SHOW THAT PROFESSOR RAHAMPOL HAD A STRONG INTEREST IN THE POTENTIAL OF SILICON STRUCTURES IN ARTIFICIAL INTELLIGENCE

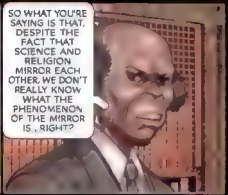
ON THE OTHER HAND MOTOKO ARAMAKI OFFERED HER HARDWARE TO A SELF-PROFESSED ARTIFICIAL LIFE FORM, AND SHE'S BEEN EXPANDING HER INFLUENCE

THE COMMONALITY BETWEEN THESE TWO THINGS IS... A NEW TYPE OF INTELLIGENT LIFE



THREE THOUSAND YEARS AGO THERE WAS ANOTHER MIRROR MILLENNIUM. BUT TOO FEW RECORDS SURVIVE TO MAKE ANY ESTIMATES ABOUT THE EFFECT OF THE PHENOMENON. TWO THOUSAND YEARS AGO IT WAS THE JEWEL MILLENNIUM, DURING WHICH RELIGION WAS EXTREMELY POWERFUL

BUT WHEN THE SWORD MILLENNIUM BEGAN, IT WAS SYMBOLIZED BY POWERFUL SCIENCE AND TECHNOLOGY. RELIGION-- UNTIL THEN, THE JEWEL -- BECAME A DOUBLE-EDGED SWORD



SO WHAT YOU'RE SAYING IS THAT, DESPITE THE FACT THAT SCIENCE AND RELIGION MIRROR EACH OTHER, WE DON'T REALLY KNOW WHAT THE PHENOMENON OF THE MIRROR IS, RIGHT?



THE MIRROR REFLECTS THE THREE SOULS OF SELF...THE INNER DEITIES

HRM

The Three Souls...I'm not going to get into a discussion here of dualism or the "single spirit, four souls," etc., of the ancient Shinto religion. Although the story seems very "Shinto"-ish here, remember...it isn't Shinto.



SO IT SEEMS
LIKE IN THE
NEAR FUTURE
WE HUMANS
WILL HAVE TO
CONFRONT THE
PHENOMENON
KNOWN AS
INTELLIGENT
ARTIFICIAL
LIFE

BUT IT'LL BE
A MIRROR...
IT LL BE
LIKE SEEING
WHAT
HUMANS
HAVE DONE,
YES?



YES, AND IT COULD
OCCUR AT A
VARIETY OF LEVELS,
WITH IMPACTS
THAT RANGE FROM
LOW TO HIGH, AND
INCLUDE CULTURE,
THE ENVIRONMENT,
POLITICS, SCIENCE
AND TECHNOLOGY,
AND RELIGION

YOU
WOULD BE
CONFRONTING
YOURSELF...



WELL, DON'T
FORGET, SHE SAID
"THE MIRROR
SEEMS
ASYMMETRICAL
AND WARPED"



WELL, THE
UNIVERSE
ITSELF IS
ASYMMETRICAL!

THAT'S WHY
IT EXISTS...
AND THAT'S
WHY IT'S
EVOLVING.



BUT...THERE'S
ALSO THE LINE
OF THOUGHT
THAT SAYS OUR
EXISTENCE IS
LITTLE MORE
THAN ONE NIGHT'S
DREAM OF AN
EMBRYO THAT WE
CALL THE
UNIVERSE...THAT
THE MOVEMENTS
OF THE TREE ARE
JUST A SINGLE
HEARTBEAT..

THERE AREN'T MANY
GOOD EXAMPLES,
AND IT'S IMPOSSIBLE
TO SPEAK WITH
CERTAINTY, BUT THE
SWAYING OF THE
TREE OCCURS WHEN
THE AMANOJAKU
ELEMENT HAS
GROWN LARGE

BUT HOW DO
YOU INTERPRET
THE AMANOJAKU
IN FOLKLORE?

IT REFERS
TO SOMEONE
ALWAYS
DOING
SOMETHING
CONTRARY
OR TO A
DEMON WHO
IMITATES
HUMANS

THERE'S NO
"CORRECT"
ANSWER TO
YOUR
QUESTION... IT'S
SOMETHING
VAGUE... SOME
PEOPLE MIGHT
SAY THE
AMANOJAKU
IS "A PERSON
WHO SPEAKS
THE TRUTH ON
THE TREE'S
SIDE" OR EVEN
"AN EMISSARY
OF THE DEVIL."

IN TAMAKI
TAMAI'S
REPORT, THE
INVESTIGATION
WAS FOCUSED
ON SOMEONE
WITH NO SIGNS
OF THE STRESS
SYNDROME
UNIQUE TO
CYBORGS

NOT A NIHILISTIC
PHILOSOPHER-TYPE,
BUT A **POSITIVE
REALIST**... A
PERSONALITY TRAIT
THE NEW LIFE-FORM
WE'RE SEEING MAY
HAVE INHERITED

AND IF
SO...WHAT
HAPPENS?

SHE WILL
SOON
CONFRONT
THIS

UH...I'VE GOT
A FRIEND IN
THE POSEIDON
SECURITY
DEPARTMENT...
WANT ME TO
HAVE HIM
OBSERVE HER
MOVEMENTS?

NOT NOW.
WE CAN DO
THAT LATER, IF
NEED BE



WE CAN RESTART
THE INVESTIGATION
AS SOON AS TAMAI
RECOVERS, BUT WE'LL
PROBABLY HAVE TO
WAIT UNTIL AROUND
NOON FOR THAT
TO HAPPEN

WELL, SHE *DID*
SAY THAT THIS
MATTER HAD BEEN
AROUND FOR A
THOUSAND YEARS
AND WOULD
PROBABLY
CONTINUE FOR
ETERNITY ..SO..



IT'S TRUE
THAT WHAT
IS GOING TO
OCCUR TODAY
IS ONLY A
BEGINNING...
A SINGLE
TRANSIT
POINT... BUT
IT'S ALSO AN
END POINT

SINCE IT'S
HAPPENING
IN
REAL TIME,
I WANTED
YOU TO BE
PRESENT

? BUT I
THOUGHT
YOU GUYS
WERE IN THE
BUSINESS OF
VIEWING THE
FUTURE..



THE PAST
AND THE
FUTURE ARE
THE SAME
THING

THE ONLY
DIFFERENCE
IS ON THE
PART OF THE
PERCEIVER ..



WHAT
THE--?



MAN-MACHINE INTERFACE: THE END

2



CLOSED

ANTI-BACKFIRE PROTECT SYSTEM



INTERFACE

Submit your letters to:
Interface@darkhorse.com
 or
Interface
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Yumpin' Yummy, the final issue of *Man-Machine Interface*! I'd like to thank our many loyal readers for staying on the ham wagon through thick and thin – and humpy shipping schedules – and we hope all of you enjoyed the books as much as we enjoyed bringing them to you. And although there'll be no more *Interface* columns – stop cheering, damn you! – feel free to keep dropping emails and letters of comment. As far as you know, we'll keep reading them! Also, we want to pay tribute to those who labored long and hard for little pay and even less money to bring *Man-Machine Interface* to English-speaking audiences.



TOREN SMITH: President of Studio Proteus, he who was manga before you were manga, Johnny. Since 1987, Toren has worked on over 80,000 pages of translated manga comprising 71 different series, which used to be impressive, but isn't anymore ever since that much started being published every month. Working on Shirov comics for 16 years has altered his brain at the molecular level and given him the secret mutant ability to understand Ghost in the Shell. Aside from bringing some of the finest manga to America, Toren does the script rewrites on many translated manga, MMI included, which is an art in itself. Toren will go to the scripts sing and dance, such as diving wrecks in the Cayman Islands. Don't get it? Well, that's why Toren makes the big bucks, mister!

FREDERIK L. SCHODT: Translator primo inter pares, Fred's the guy who sweats bullets to make Mr. Shirov's very complex scripts understandable to those of us who operate several dozen levels of mental magnitude below MMI's creator. Aside from his considerable manga translation credits – like about three quarters of a million words of *Asura Boy* – Fred has written a basket load of fascinating books – yes, buy them NOW – including *Manga! Manga! The World of Japanese Comics* (the definitive work on the subject) and his latest, *Native American in the Land of the Shogun*.



TOM ORZECZOWSKI: One of the comics industry's most renowned letterers, whose personalized approach is as instantly recognizable as that stealy boomer down the street with the eagle claw tattooed on his face, Tom would be a millionaire today had he only been paid by the word during his decades-long stint on *X-Men*.

DAN JACKSON: Crackerjack Photoshop wrangler Dan Jackson assists Tom Orzechowski with a variety of visual effects and spends the livelong day getting the incredibly complex graphics files for MMI just right. Dan's also a fine colorist as well as a PhD in Particle Physics. Okay, I made that last bit up, but he is a terrific colorist!



DAVID NESTELLE: Dark Horse is lousy with crackerjack Photoshop wranglers. I tell ya. Dave's the book's principle graphic designer, responsible for the very cool 3D graphics on the "Enter" page and the like. Dave's been busting his tail on eye-slapping digitally rendered images on staff here for some time, and we're really going to miss Dave once we've sent him aside after sucking the creative life out of him.

INTERCHANGE

We wind up our final issue of *Man-Machine Interface* with some interesting bits and pieces from the vast *MMI* vaults.

Submitted for your approval, ample evidence of exactly how much painstaking work Masamune Shirow puts into his storytelling. Here's a panel from issue two, with a series of floating screen images. Below are larger versions of those images, but you'll probably want to get out your magnifying glass to check out some of the details that now show up.

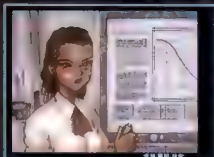


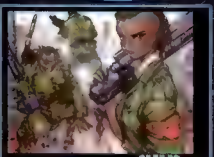
TABLE 1



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1-800-368-7734



1998

[illegible]

A variant view of the amazing inspection ROVs from the second issue. And the figure floating at right? That's the teeny, tiny figure swimming in the background of the panel!



R.O.V-OV38-025 SILURU

TOP VIEW

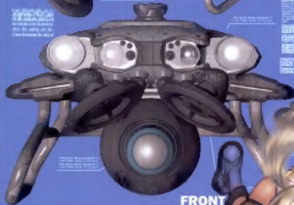
ROV-OV38-025
The R.O.V. is a small, autonomous underwater vehicle (AUV) designed for deep-sea exploration and research. It is equipped with a variety of sensors and cameras to collect data and provide real-time information to the operator. The vehicle is controlled via a remote control system and is capable of operating at depths of up to 1,000 meters.

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FRONT

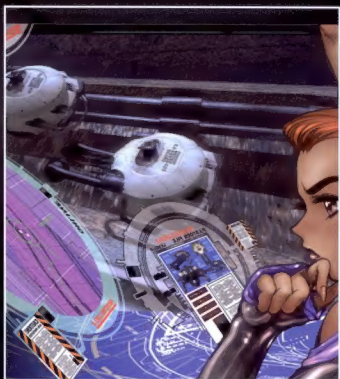


SIDE VIEW



CHASE

Okay, now get out your electron microscope! Here's a blown-up version of the little throwaway ROV schematic from issue 2 that was printed about the size of a tobacco tax stamp. I am told by our magical production folk that this text is actually readable when blown up from the high-resolution files. Of course, that could just be the whiskey talking...



And here, the coolest thing ever: the *Man-Machine Interface* mousepad that came with the limited-edition *Solid Box* set in Japan. I had to stop using mine, since I was having a hard time keeping my eyes on the computer screen!



GHOST IN THE SHELL MAN-MACHINE INTERFACE

2

ISSUE 11 OF 11

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MASAMUNE SHIROW

GHOSH IN THE SHELL
MAN-MACHINE INTERFACE

攻殻機動隊

ISSUE 11 OF 11

STORY AND ART BY
MASAMUNE SHIROW

TRANSLATION BY
FREDERIK L. SCHOOT AND TOREN SMITH

この物語に登場する
様々な設定や解説や概
念は全て妄想の産物で
あり、現実とは無関係
の娯楽物です。服用を
誤る事無くお楽しみ頂
ければ幸いです。
またデッチ上げやギミ
ックの「誤用」による
二次被害には当方責任
を負いかねます点を御
了承願います。

LETTERING BY
**TOM ORZECOWSKI
AND DAN JACKSON**

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